

Final General Management Plan/Environmental Impact Statement

TALLGRASS PRAIRIE National Preserve Kansas

RESPONSIBLE AGENCY: National Park Service, U.S. Department of the Interior

The approving official is the National Park Service's Regional Director for the Midwest Region. A "Record of Decision" can be issued 30 days after publication of the release of this document by the Environmental Protection Agency in the *Federal Register*. The National Park Service will accept comments on the Final General Management Plan and Environmental Impact Statement during this 30-day period. For the exact date that the 30-day period will end, contact the park at the address or phone number below, or see the Tallgrass Prairie National Preserve web site: <http://www.nps.gov/taprl>

FOR FURTHER INFORMATION: Contact the Superintendent, Tallgrass Prairie National Preserve, 226 Broadway, Cottonwood Falls, Kansas 66845, (316) 273-6034. Written comments also can be sent to this address.

ABSTRACT:

This *General Management Plan* is intended to provide a blueprint to guide park management decisions at Tallgrass Prairie National Preserve for the next 10-15 years. In keeping with National Park Service planning policy, the *General Management Plan* is a holistic, long-term, policy-level view for the future of the preserve. The plan does not address site-specific actions, which will be deferred to future implementation planning. In the course of preparing the plan, six alternatives were developed. **Alternative A** is the no-action alternative required by the National Environmental Policy Act. It provides a baseline for comparison of the other alternatives.

The five "action" alternatives each would strive to achieve all desired futures for the preserve, including those related to prairie enhancement, natural and cultural resources protection, and visitor experiences. The primary difference between alternatives is their central focus. The **Preferred Alternative (Proposed Action)** would focus on the integrated management of the natural and cultural resources of the preserve. This alternative is based on the ideas that the Preserve was established to preserve, protect, and interpret a remnant of the tallgrass prairie ecosystem and that the remnant prairie exists today because of a complex history of interaction between people and the land. **Alternative B** would focus primarily on the preservation, protection, and interpretation of the preserve's cultural resources, although the prairie ecosystem would be enhanced and natural resources protected. **Alternative C** would emphasize visitor experience goals. This alternative would provide the broadest range of visitor experiences over the largest area of the preserve. **Alternative D** would center on the story of ranching in the Flint Hills region, along the story of human interaction with the tallgrass prairie ecosystem. Finally, **Alternative E** would more fully focus on management of the natural landscape, including the unplowed prairie and its associated creeks, springs, and seeps.

The potential environmental consequences of the action alternatives have been evaluated. As this is a programmatic environmental impact statement, the affects of the alternatives are described in terms of reasonable projections of likely impacts. In general, all action alternatives would provide for better protection and/or enhancement of all of the preserve's resources (than is provided for by the current preserve management framework, i.e., Alternative A). They also would provide for greater visitor access to the preserve, and an increased understanding of the prairie and all of its related stories. Major impact topics assessed include vegetation, wildlife, threatened and endangered species, air and water quality, historic, ethnographic, and archeological resources, visitor use, and the socioeconomic environment.

SUMMARY

Tallgrass Prairie National Preserve was established in 1996. The legislation authorizing the preserve states that the purposes of the preserve are "to preserve, protect, and interpret for the public an example of a tallgrass prairie ecosystem...and to preserve and interpret for the public the historic and cultural values represented on the Spring Hill Ranch." Beginning with the legislative mandate, the planning team identified the significance of the preserve, interpretation themes, "desired futures," and visitor experience goals. The team then developed management alternatives that would meet these requirements and goals.

The public was invited to participate throughout the various stages of the planning effort. Open houses, newsletters, and the preserve's website were all used to share information and solicit comments. Originally six alternatives were developed in addition to the "no action" alternative. One, Alternative B, places a primary focus on cultural resources; another, Alternative C, places a primary focus on visitor opportunities. Two alternatives were developed with the help of outside panels that were made up of acknowledged experts and scholars in the fields of prairie ecosystem management and range management. The finding of these panels formed the basis of Alternative D, with a "two-pronged" focus on ranching and tallgrass prairie management, and Alternative E, with a primary focus on enhancing the tallgrass prairie ecosystem. Two other alternatives, a "modern working ranch" alternative and a "prairie wilderness" alternative were eliminated early in the planning process because the team felt they did not meet the legislated mandates or the visitor experience goals for the preserve. The Preferred Alternative was developed as a new alternative, an outgrowth of the four surviving preliminary alternatives and the comments received from consultations and public response. The focus of the Preferred Alternative is the integrated management of the natural and cultural resources of the preserve, recognizing the intertwining of these resources throughout time.

Differences between alternatives are a function of each alternative's primary focus. All action alternatives are intended to support the park's significance and purpose, achieve desired futures, avoid unacceptable resource impacts, and provide for public enjoyment of the preserve. Thus, natural resources, cultural resources, and visitor use are important considerations in all of the alternatives. However, the focus of each alternative helps determine how each of these concerns is managed relative to the other concerns.

Implementation of any of the action alternatives, including the Preferred Alternative, would result in significantly better protection of the preserve's natural and cultural resources than would result if the preserve continued to be managed as it is now (that is, under Alternative A, the "no action" alternative). Any of the action alternatives would also result in significantly improved visitor experiences and increased visitor understanding of the preserve.

The Preferred Alternative and Alternative E would provide for a greater expression of vegetative species diversity than any other alternative because these alternatives would place a strong emphasis on the prairie landscape and those processes documented to increase diversity.

Alternative B would provide for the preservation and restoration of the greatest number of cultural landscape features, because of its emphasis on protecting and interpreting the cultural resources. Alternative E would allow for more deterioration of cultural resources than any other action alternative because the emphasis would be on the protection and interpretation of the tallgrass prairie ecosystem preserve-wide.

Alternative E would provide for a greater improvement to water quality than any other alternative because of the lack of construction directly related to watercourses and the reduction in the number of stocked grazers on the preserve.

Alternative C would facilitate achievement of more visitor experience goals than any other alternative, while Alternative D would result in achievement of the fewest number of visitor experience goals. Visitor access to bison would be limited under Alternative B. Access to bison would be greatest under Alternative C or E.

None of the alternatives would appreciably affect the socioeconomic environment.

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SECTION 1: BACKGROUND

PURPOSE AND NEED FOR A PLAN

It is a policy of the National Park Service (NPS) that each unit of the National Park System maintain an up-to-date general management plan (GMP). The purpose of the plan is to ensure that each park has a clearly defined direction for resource preservation and visitor use.

The preserve is a new unit of the National Park System, authorized by Congress in 1996. Section 1005(g) of Public Law 104-333, the act authorizing Tallgrass Prairie National Preserve (hereafter 'preserve') calls for the preparation of a GMP, and includes direction on what should be included in the plan and who must be consulted in preparing the plan. The legislated deadline for completing the GMP is September 30, 2000.

A GMP articulates a management philosophy and provides broad direction for future management decisions at the preserve. The vision developed in the GMP must derive from the intent articulated in the preserve's enabling legislation. By definition, a GMP does not provide specific details; it provides broad brushstrokes that are refined later through implementation plans such as the Resource Management and Comprehensive Interpretation plans. This GMP will set a direction and provide a framework for decision making at the preserve for the next 10-15 years.

The Environmental Impact Statement (EIS) is a programmatic statement, presenting an overview of potential impacts related to the proposed program for each alternative. More detailed plans may be developed for individual actions and would be tiered to this programmatic statement.

BRIEF DESCRIPTION OF PRESERVE

The preserve was established in November 1996. This act culminated more than 70 years of interest in, work towards, and opposition to the creation of a national prairie park.

The preserve is located in northern Chase County, Kansas, in the heart of the Flint Hills region (see Figure 1). It consists of 10,894 acres (4398.1 hectares) of rolling grasslands. Two major creeks cross the property, Fox Creek and a tributary, Palmer Creek. Numerous springs, seeps, and stock ponds dot the landscape. In addition to the prominent buildings and structures related to the ranching history of the property, a number of less prominent archeological features have been identified on the land.

Archeological Overview

The information in this and the following section has been excerpted from several studies that were prepared by the NPS, including an Archeological Overview and Assessment and a draft Ethnobotany Report. Additional studies are ongoing, and will provide background and analysis of the preserve's cultural resources. Two other studies, a Cultural Landscape Report (CLR), and a Historic Resource Study (HRS), will identify, evaluate, and help determine all historic cultural

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landscapes and structures within the preserve that are eligible for the National Register. Both the HRS and CLR will be primary documents used to guide the treatment and use of cultural resources at the preserve.

Human activity in the Kansas Flint Hills can be traced back about 10,000 years. Human use of the area's natural resources evolved from hunting large and small mammals and gathering wild plants, to the development of ceramic technologies and horticulture, with exchange networks extending well beyond the Plains (ca 6,000 B.C.-A.D.1). Beginning about A.D.1, new subsistence and technological traits developed, including the routine production of ceramics and the use of domesticated plants, and bow and arrow hunting. From about A.D.1000, domesticated plants and associated artifacts reflect a predominantly horticultural existence, and a shift to settled village life (Jones 1999: 6-9, 14-17).

By A.D.1500 - 1825, efficient horticultural activity was combined with increased bison hunting, almost certainly due to acquisition of the horse by American Indian groups. This was a transition time between the prehistoric past and the era of written history on the Great Plains. This period has clear association with specific American Indian peoples. In the area of the preserve, these include the Wichita, Kansa, Osage, and Pawnee. The movement of these people throughout the Great Plains during this period prevents attribution of specific peoples to fixed locations in the Flint Hills. The Wichita apparently abandoned the northern part of their territory between 1690-1719, moving south to the Arkansas River in present-day Oklahoma. By the first two decades of the 19th century, the western boundary of the Kansa core territory extended nearly to the preserve area. Pawnee and Osage occupation sites have not been discovered in the general area of the preserve, although the region was probably included in their hunting range (Jones 1999; 17-22).

Descriptions by explorers and early settlers across the Great Plains provide important information on American Indian use of the land and its resources, particularly bison, and the use of fire. Indian peoples throughout the Great Plains started prairie fires for a number of reasons, including plant management, grazing improvements, acts of aggression, and communications. There is little evidence, however, to support the idea that Indian people practiced large scale annual burning, or that they intentionally set fires to clear wooded areas. Documented instances described fires that were relatively small in size, while large fires caused by Indian people were either accidents or acts of aggression. Some American Indian groups in the northern Great Plains used fire to limit or control bison in order to predict the animals' movement the following spring, or to force bison movement towards encampments; however, the negative consequences outnumbered the benefits of the use of such large-scale fire. These fires were dangerous and difficult to control. They also destroyed vegetation, and as a result, drove animals further away from camps. Instead, typical historic references of bison hunting involve tribal groups, as a community, traveling to an area to hunt bison (Moore 1972, Higgins 1986, Arthur 1975, and Evans 1998, personal communicatio

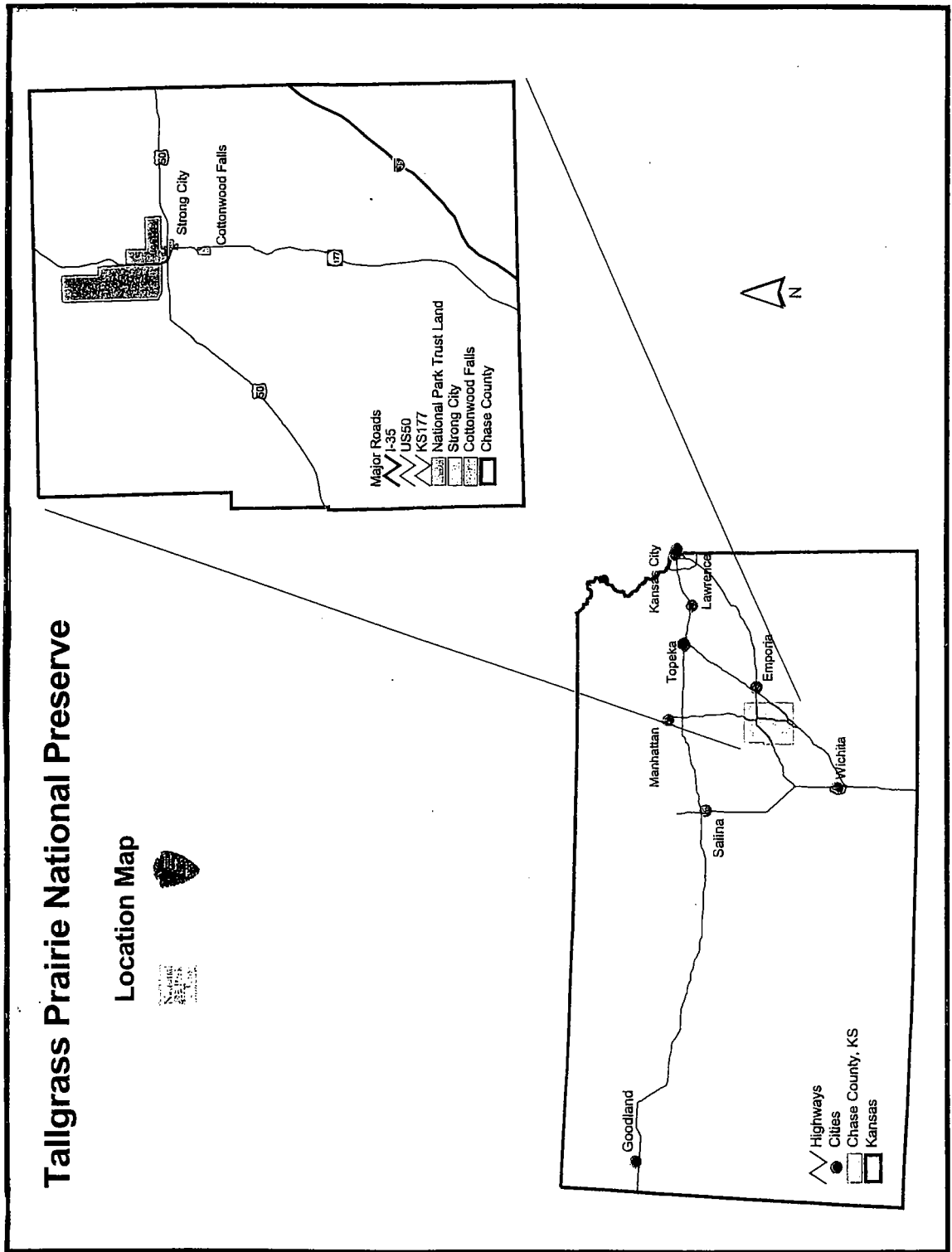


Figure 1

Historical and Ethnographic Overview

Mid-16th and early 17th century Spanish and French explorers provided the first written descriptions of this portion of the central Great Plains and its occupants. Spanish explorers described Wichita tribes in the areas of Cow Creek and the Little Arkansas River, and along the lower Arkansas River. French explorers interested in the fur trade noted both *les panis* (possibly meaning Pawnee settlements) on a northern tributary of the Arkansas River, and a Kansa village along the Missouri River in northeast Kansas (Jones 1999: 17-22).

While the Spanish were impressed with the agricultural possibilities of the region, American government-sponsored expeditions two decades later found little of economic value in what was described as the "Great American Desert"-- a description that included all of Kansas (Evans 1939: 39-44, Richmond 1989: 15). Early 19th century perceptions of the plains grassland as an area unfit for agriculture encouraged public opinion on the unsuitability of settling west of the Missouri River. Instead, traders and travelers journeyed through the country, connecting with commercial centers in the Southwest and Far West. One route of predominately commercial use was the Santa Fe Trail, which passed through Council Grove (Richmond 1989: 24, 48).

This constant flow of travelers on the Santa Fe Trail brought an increase in hostilities with the American Indian peoples who were losing control over their lands and homes, and confronting a great increase in disease epidemics. Smallpox, cholera, and dysentery epidemics, among other disease episodes, led to a depopulation of the Kansa tribe by at least two-thirds by 1839.

Alternative land uses evolved with the increase in traffic through the region. American policy makers found the area an important tool in carrying out governmental goals regarding removal of American Indians. In 1825, the same year they allowed Santa Fe traffic through their land, the Osage and Kansa signed treaties whereby they surrendered their traditional lands--nearly 45 million acres-- to make way for relocated western tribes. The Osage cession included the land that now constitutes Chase County and Tallgrass Prairie National Preserve. The Kansa cession included some 15 million acres comprising most of the northern half of the state of Kansas. By 1841, 17 reservations were established west of the Missouri. In 1846, the Kansa tribe was persuaded to give up their last 2 million acres in a long strip north of Council Grove, for a reduced reservation of 250,000 acres centered around Council Grove. The resultant "permanent Indian frontier" lasted less than 35 years (Jones 1999: 21, Richmond 1989: 30; Garver 1981: 204-229).

Before Kansas was established as a Territory in 1854, Anglo-American emigrants were moving west, and "squattling" on unsurveyed land. (Evans personal communication 5/19/1998, Register of Deeds, *Strong City Independent* 1881, Shortridge: 1995 18-27, Garver 1981: 524-530). The new arrivals found the region's tillable and fertile floodplains supported agriculture, and the grasses and forbs nourished their livestock. Trees and native limestone provided construction material.

Pressure for westward expansion increased after the end of the Civil War. It resulted in a complete removal of native populations, the influx of new settlers, and the establishment of a transportation system that would have a broad impact on the region. To legally allow for the sale of public land for settlement and development, additional treaties were signed; these further reduced the amount of land held by tribes. In other cases, tribes sold their land to promoters. By

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the late 1870s, nearly all of the original inhabitants of the eastern region of Kansas were moved to the Indian Territory of Oklahoma (Davis 1976: 33-34; Evans 1939: 376, Richmond 1989: 41-43; Garver 1981: 472-543). The last original resident American Indian tribe in Kansas, the Kansa (or Kaw), from which the state took its name, was forced to move to Oklahoma in 1873. A few of the eastern tribes refused to leave Kansas, however, and they still have reservations in the state. Currently residing in Kansas are the federally recognized Potawatomis, Iowas, and Kickapoos. A group of Wyandots in the Kansas City area are attempting to gain federal recognition as an American Indian tribe. Despite their forced removal, the Kaw still maintain historical and cultural ties to their former reservation lands surrounding Council Grove. The tribal government is currently negotiating to acquire a few acres encompassing the original Kaw Agency site, and they participate in an annual Pow-Wow at Council Grove. Some members of the tribe still retain family history from the area, but the specifics have grown dim since the 1873 removal.

After 1873, millions of acres of newly opened public land were granted or sold to railroad companies to encourage commercial traffic and development. The railroads in turn sold excess land to obtain capital for building new rail lines across the territory. In this region of the Flint Hills, the Atchison, Topeka and Santa Fe extended a line to Cottonwood Station (Strong City) in 1871. The Missouri, Kansas and Texas Railroad was built through Council Grove on its route south. Within a decade of the establishment of the territory, nearly all the land in Chase County was under private ownership.

One result of rail access to the prairie was the slaughter of the plains bison by both market and sports hunters. The estimated number of bison on the Great Plains in the early 1800s prior to their decimation varies from 30 to 75 million (U.S. Department of the Interior 1995, Davis 1976: 106). Within four years of the railroads' advance and the development of a market in tannable hides, well over four million bison died on the southern plains. In Kansas, the slaughter peaked between 1870-1873, then collapsed (Cronan 1991: 217).

With the annihilation of the bison and removal of most tribes to Oklahoma, the grasslands of eastern Kansas and the Flint Hills became the focus of farming and ranching economies. In the early 1870s, small farmers made up the majority of the Chase County population, and many even cultivated portions of uplands adjoining their lower fields (Hickey and Webb 1987: 249-250). In addition to cattle grazing, early settlers practiced a diversified agriculture, raising crops in small, enclosed holdings on the bottomlands, and running hogs and sheep on the unfenced uplands. With the exception of the floodplains, however, much of the topsoil in the Flint Hills region was considered too thin to support cultivation (Kollmorgen and Simonett 1965 in Hickey and Webb 1987: 244).

An additional hindrance to agricultural development was the lack of a herd law in Chase County. Livestock grazed unrestricted on the uplands (Hickey 1988: 204). Fencing, such as limestone walls or Osage orange hedges, kept livestock out of crop areas (Peters 1989-90 in Yoder 1995: 12). Barbed wire, invented in 1874, would not be widely available or within the means of most Chase County farmers until the 1880s (Isern in Hickey 1988:205).

The 1880s saw the boom of the cattle industry in the Flint Hills, a development integrally related to the availability of the railroad service. For the railroads, transporting cattle from western and southwestern railheads became a primary source of revenue. Flint Hills stockowners and

landowners profited from feeding cattle enroute on their shipment east by rail. When the Flint Hills were recognized as a prime place to fatten cattle, livestock came to dominate the agricultural sector. Unfenced grazing practices gave way to grazing in enclosed fields. Herd sizes were reduced, in conjunction with improved care and improved stock quality (Wolfenbarger 1996: 17; Hickey 1988: 206).

Two businessmen who recognized the importance of the grasses in this region were Stephen Jones and Barney Lantry. In the late 1870s, Jones switched from stockraising on the Colorado open range to raising purebred stock in Chase County. From 1878 to 1886, Jones purchased a number of parcels of land in the county, ranging from small existing farms to tracts of over a thousand acres. Many of the larger tracts of land were obtained from the railroads (Register of Deeds, *Strong City Independent* 1881). He named his property the Spring Hill Ranch and Stock Farm. The 7,000-acre (2,826 hectares) holdings represented the transition from open-range ranching to the more specialized cattle industry which developed on enclosed ranches during the cattle industry's mature stage. Jones specialized in Hereford, Shorthorn, and Galloway stock, and also raised Hambletonian thoroughbreds, hogs, horses, and sheep. The ranch included over 400 acres (160 hectares) cultivated in a variety of grains, corn, potatoes, tame grass, and fruit trees. Thirty miles (50 kilometers) of stone fence enclosed and subdivided the property. One-half mile (0.8 kilometers) north of the ranch headquarters, Jones donated land for a one-room limestone schoolhouse, commonly known as the Lower Fox Creek School (Snell 1991: 5, 13).

The ranching domain represented in the Spring Hill Ranch grew to 15,000 acres (6,056 hectares) with its purchase by neighbor Barney Lantry in 1888. Lantry made his fortune as a railroad construction contractor; included on his Flint Hills property were limestone quarry sites. Although he would purchase the ranch headquarters used by Jones, Lantry's headquarters remained at his Deer Park Place stock farm to the south (Snell 1991: 9-10).

Later owners modified the ranch boundaries over the next several decades. From 1909 to 1935, the Benninghoven family owned 1,080 acres (436 hectares), including the original ranch headquarters. They were the first owners to live in the Spring Hill Ranch house since the Jones family. Debts forced the Benninghovens to sell their land in 1935 to George H. Davis, a prominent grain dealer from Kansas City.

The purchase by Davis reunited the historic Spring Hill/Deer Park Place, along with holdings in five other counties. The subsequent Davis Ranch was the largest holding in the state, totaling over 70,000 acres (28,260 hectares) of ranch land. Under the Davis/Davis-Noland-Merril operations, stock ponds, corrals and spring-fed water troughs were installed across the property. Davis transferred title of the property to his Davis-Noland-Merril Grain Company, although his cattle operation was known as the Davis Ranch. The ranch was a huge feeder calf operation; an average of about 6,000 Hereford calves were shipped by rail to this area of the Flint Hills where they were fed for two years before they were sent to market (Hoots 1998: 6-10; Slabaugh 10/5/1994 interview). As with the earlier Jones and Lantry period, large-scale ranching defined land use under the Davis and Davis-Noland-Merril Grain Company ownership. The proximity to and use of railroads to transport stock continued to play an important role in ranching operations (Quinn Evans 1999; 3-3 to 3-4).

When Davis died in 1955, the ranch name changed to the Davis-Noland-Merril Grain Company Ranch. Prior to his death, Davis reorganized the ranch ownership, placing most of his estate in an

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educational trust fund, with the remainder divided between specific individuals. In 1975 the business name changed to the Z Bar Cattle Company, and the Chase County ranch property became known as the Z Bar Ranch. In 1985 the company ceased cattle and ranch operations, and the stockholders voted to dissolve the corporation. In 1986 the property was placed in trust with Boatman's First National Bank of Kansas (now Bank of America). The bank's trust department leased the property for seasonal grazing. In 1994, the National Park Trust (NPT), a non-profit land conservancy organization purchased the property. The NPT's mortgage payments on the Z Bar Ranch were eased in 1995 by a \$1 million donation by Edward Bass. Bass also paid in advance for a \$2 million, 35-year grazing lease on the property. (United States Dept. of Interior 1/28/98, Snell 1991: 12; Rothman and Associates 1999: 199-201; Conard 1998: 47).

The preserve represents a unique partnership between NPT, who owns the land, and the NPS, who will serve as the primary managing agency. The legislation permits the NPS to own up to 180 acres (72.7 hectares); the rest will remain in private ownership.

FOUNDATIONS OF THE PLANNING EFFORT

Legislation

The legislation authorizing the preserve states that the purposes of the preserve are "to preserve, protect, and interpret for the public an example of a tallgrass prairie ecosystem...and to preserve and interpret for the public the historic and cultural values represented on the Spring Hill Ranch." The legislation calls for the development of a GMP that provides for maintaining and enhancing the tallgrass prairie within the boundary, ensuring public access to and enjoyment of the property consistent with conservation and proper management of the resources, and providing for interpretive and educational programming. The enabling legislation also requires that the NPS comply with applicable state laws regarding the maintenance of adequate fencing, control of noxious weeds, use of pesticides, and maintenance of animal health (see Appendix 8 for full act).

Significance and Purpose

All planning for national park areas begins with an examination of the legislation establishing the site. This legislation usually contains information about the significance of the site (why the area was designated), and the purpose of the site (what the area should accomplish). The Tallgrass Prairie National Preserve GMP planning team began their planning effort by first examining the legislation and developing some short statements that capture the significance and purpose of the preserve. These statements served as the foundation for the development of the management alternatives.

The **significance** of Tallgrass Prairie National Preserve:

- Of the 400,000 square miles (1,036,279 square kilometers) of tallgrass prairie ecosystem that once covered North America, less than four percent remains; Tallgrass Prairie National Preserve represents a portion of this remnant.
- The landscape of the Tallgrass Prairie National Preserve contains a unique collection of natural and cultural features that tells the story of human interaction with the prairie environment, from pre-contact times to the present.
- The Spring Hill Ranch is an outstanding representation of the transition from the open range to the enclosed holdings of the large cattle companies of the 1880s.
- The Spring Hill Ranch Headquarters area contains outstanding examples of Second Empire and other 19th century architectural styles.
- Tallgrass Prairie National Preserve offers opportunities for extraordinary and inspirational scenic views of the Flint Hills prairie landscape.

The **purpose** of Tallgrass Prairie National Preserve:

- to preserve, protect, and interpret for the public, an example of a tallgrass prairie ecosystem;
- to preserve and protect the cultural resources found within the preserve;
- to interpret for the public, the cultural resources and the social and cultural values represented within the preserve.

Mission Statement

Together, significance and purpose statements are the park's mission. The mission statement is a distillation of significance and purpose into a single statement of worth – why the park exists, what it accomplishes, and what value it offers the American people.

Tallgrass Prairie National Preserve is a public/private partnership dedicated to preserving and enhancing a nationally significant remnant of the tallgrass prairie ecosystem and the processes that sustain it; preserving and interpreting the cultural resources of the preserve and the heritage associated with the ranch property; and offering opportunities for education, inspiration, and enjoyment through public access to its geological, ecological, scenic, and historical features.

Desired Futures

Before any alternatives were developed, the planning team took the significance and purpose statements and developed a set of “desired futures” for the preserve. These represent the conditions that would be desirable to have in place in order to achieve the purpose of the preserve. They are written in the present tense, as if they already exist, in order to help planners then focus on how they might be achieved. The following “desired futures” were identified for the preserve.

The preserve's private landowner and the National Park Service maintain a strong partnership to accomplish the mission of the preserve.

This is the primary key to success at Tallgrass Prairie National Preserve. Ninety-eight percent of the land will remain in private ownership, so the maintenance of this partnership between the landowner and the land manager is vital to the success of the preserve.

The preserve's management team maintains effective working relationships with preserve neighbors, adjacent communities, and other partners in order to identify and cooperate on issues of mutual interest.

Many issues, such as viewsheds, water quality, transportation, and fire management, can be addressed effectively only through partnership efforts; educators and researchers may have important current knowledge, other landowners may have similar needs and concerns; nearby communities may have additional valuable resources. Accommodating diverse viewpoints and interests, and sharing information, will be very important for the successful, long-term management of the preserve.

The preserve has adequate information available for making management decisions.

There is a need to establish a long-term inventory and monitoring program at the preserve. The current state of the resources of the preserve must be established as baseline data, then quantitative and qualitative changes must be identified over time. Only through a comprehensive inventory and monitoring program can adequate information be made available for sound decision making.

Management activities and policies at the preserve lead to the enhancement of the tallgrass prairie ecosystem and a greater understanding of its associated processes.

Experts have consistently stated that to enhance the tallgrass prairie ecosystem it is important to maintain the processes that allow for its full expression; it is less important to focus only on increasing the number of species present. The preserve provides opportunities at the local, regional, and national level to demonstrate and create a better understanding of these processes.

Heterogeneous disturbance regimes are an integral part of management activities at the preserve.

Experts suggest that in order to allow for the full expression of the tallgrass prairie ecosystem, elements of randomness should be encouraged. The complex interrelationships found within the prairie ecosystem, especially those involving fire and grazing, should be perpetuated in such a way as to ensure that the same activity (such as fire or grazing) does not occur in the same area, in the same way, at the same time, every year.

The preserve's seeps, springs, and streams are in good ecological condition and support a healthy and diverse aquatic community.

Healthy aquatic resources are vital to a fully functioning prairie ecosystem. These resources should be assessed and either maintained or restored to function as integral parts of the ecosystem.

Open and unobstructed views, an integral part of the prairie experience, are maintained.

The vistas and views have been repeatedly identified by the public as some of the preserve's most important resources. The relationship of earth and sky, the feeling of vastness (during both day and night), and the openness of the landscape all contribute to a "sense of place." Existing developments should be managed to enhance views (i.e., power lines buried), and future developments should enhance and not detract from this important resource.

Resources are managed to interpret the legacy of human interaction in the Flint Hills.

The tallgrass prairie has evolved through the complex interplay between climate, geology, grazing, fire, and human activities. The span and variety of human activities in the Flint Hills appear to be well represented at the preserve. These stories should be told in large part through and by the resources of the preserve.

Natural and cultural resources are managed to preserve the character-defining features of the Flint Hills cultural landscape.

The Flint Hills landscape today represents the dynamic interrelationship of people and the land. Maintenance and enhancement of the tallgrass prairie ecosystem should be done in such a way that this landscape is maintained.

The preserve's historic records and objects are properly managed and preserved.

The preserve's historic records and objects should be an integral part of education and interpretation programming at the preserve. Preservation and use of these materials can bring visitors into direct contact with the story of the preserve. Archive materials should be available to researchers.

Education and interpretation efforts extend beyond the boundary of the preserve, in order to reach a wide audience.

Although on-site experiences will be a very important part of education and interpretation at the preserve, interpretive efforts cannot be successful if they are directed only toward those who visit a site. Outreach to communities, educational institutions, and potential visitors through off-site activities, dissemination of written materials, and development of long distance learning opportunities should be pursued.

Visitors are transported to and through the preserve using a variety of transportation modes, in order to protect the landscape and provide for high-quality visitor experiences.

Because of the desire to preserve the landscape and protect integral parts of the prairie experience, a transportation system other than personal automobiles might be needed to transport visitors from a visitor center to the historic ranch headquarters area, or from one visitor area to another. A range of alternative visitor transportation modes will need to be considered. These options could closely tie transportation to interpretation at the site, and should address safety issues, including potential conflicts between grazers and visitors.

Interpretation and Education Themes

Interpretation and education themes are those ideas, concepts, or compelling stories that are central to the preserve's significance, purpose, and visitor experience. Every visitor should have access to these ideas, concepts, and stories. These themes provide the framework and backbone of the preserve's programs. They provide direction for planners and for designers of various media such as exhibits, publications, audiovisual presentations, and personal service programs such as guided tours or living history demonstrations.

The once vast tallgrass prairie ecosystem, endemic to North America, is one of the world's most endangered ecosystems.

Much of the Midwest was once covered with tallgrass prairie, a complex, productive, and beautiful ecosystem. Today, unplowed tallgrass prairies are nearly extinct, with an estimated four percent remaining nationwide. Many of those remaining prairies are small, isolated remnants that barely resemble the once vast expanses known to American Indians. Though much of the prairie story is hidden beneath the surface in the soil, an entire collection of above ground species and their interactions have been adversely affected by loss of prairie habitat. Biodiversity loss is an increasingly serious global environmental problem. While land management practices are compatible to some degree, the full expression of native species diversity is suppressed. Not all impacts are realized immediately. The subtle changes to the native plant and animal communities associated with air borne pollutants are slowly having an effect on the unique habitats and their life forms. Our choices, whether local or global, are having impacts on the remaining resources. The preserve offers a unique opportunity to understand the value of prairies worldwide by preserving a significant example of one of the rarest of North America's major ecosystems.

Tallgrass prairie is a biologically diverse association of flora and fauna, specially adapted over thousands of years to topography, soils, climate, fire, grazing, and other natural influences.

Biological diversity, or biodiversity, refers to the many species of native plants and animals that comprise and sustain natural communities. The interactions between the species above and below the surface of the ground are complex. Numbers of grassland bird species have been particularly affected by loss of habitat brought on by changes in land management practices. The preservation of Flint Hills prairie can provide an important storehouse of genetic diversity.

Interrelationships between the natural and cultural resources and features of the preserve reflect the influence of the land on the people and the people on the land.

A remnant tallgrass prairie exists in east central Kansas because of a complex history of interaction between people and the landscape. Early inhabitants hunted, gathered, and practiced horticulture for medicinal and ceremonial purposes and to sustain themselves. Rocky, shallow soils unsuitable for farming, and a change in livestock management to enclosed grazing, caused this region to remain as prairie long after other tracts in the Midwest had been plowed. In turn, the prairie influenced the people who lived here, changing the foods they ate, the appearance and design of their structures and landscape, and their cultural expressions.

The cultural resources and features of the site illustrate the continuum of human experience in the Flint Hills region of Kansas from the first inhabitants through today's residents.

Initial reconnaissance of the archeological resources indicates that the preserve contains evidence of early human activity dating to the past several thousand years. Research also indicates that American Indians used this specific area for horticulture, hunting, and gathering. The development of a railroad through this area played a critical role in the economic evolution of the region and in the establishment of the historic Jones and Lantry ranches. The ranching history of this region includes facets such as the railroad influence, the cowboy lifestyle, farming, cattle management, ranch organization, and rural education.

Tallgrass Prairie National Preserve is a new model of public/private partnership in the stewardship of resources and for public enjoyment.

The preserve's enabling legislation provides a new framework for cooperative public/private efforts to preserve nationally significant natural and cultural resources. The NPT, a private, non-profit organization, and the NPS manage these resources and visitor opportunities through a cooperative agreement. NPT will donate up to 180 acres (72.7 hectares), or about two percent of the preserve, to the NPS to facilitate management, interpretation, and operation of the preserve.

Visitor Experience Goals

Visitor experience goals describe what experiences (cognitive, emotional, active, and sensory) should be available for visitors to the preserve. Like the interpretation and education themes, these goals provide the basis for management activities including the development of management areas within the preserve, the design of facilities and media, and the development of programs and partnerships. Visitor needs and perceptions will vary greatly from person to person since each individual will bring his or her own mental pictures of a prairie experience to the preserve. Likewise, they will take away very personal experiences when they leave.

Visitors will have opportunities to:

- Understand the role of partnerships at the preserve.
- Become emotionally involved with the prairie through a variety of media.
- Experience the resources in solitude and through social or structured activities.
- Experience the tallgrass prairie through direct contact.
- Appreciate the expanse of tallgrass prairie through unimpeded views of the Flint Hills landscape.
- Gain a sense of some of the daily and annual activities of the people who have lived here and continue to live here.
- Appreciate cultural landscapes, structures, and artifacts representative of various periods of habitation at the preserve.
- Experience and understand indigenous prairie plants and animals, and the processes through which they are interrelated.
- Understand the interrelationships between people and the landscape.
- Experience universally accessible facilities and programs where feasible.
- Appreciate the “prairie underground” as the non-visible element of the ecosystem.
- Be moved to personal action toward the protection of prairie and other natural and cultural landscapes.
- Appreciate the role of fire and grazing in the prairie ecosystem.
- Experience a greater personal “sense of place.”
- Appreciate the role of springs, seeps, streams, and other riparian areas as a part of the prairie.
- Understand key prairie ecological processes and relationships.
- Appreciate the special experiences of prairie sights, sounds, skylscapes, views, and feelings during all seasons and times – and during both day and night.

SUMMARY OF PUBLIC INVOLVEMENT

Five newsletters have been produced; the first four issues went to all postal patrons in Chase County, to relevant agencies and organizations, and to those requesting to be on the mailing list. Chase County residents who requested to remain on the list were included in the mailing of the fifth issue. The planning mailing list currently contains approximately 1,600 addresses.

Informational open houses have been held throughout the planning process. Two were held in July 1997, in Cottonwood Falls and Topeka, to introduce the planning team and to explain the planning process. Two were held in October 1997, in Emporia and Council Grove, to provide an opportunity for the public to ask questions about planning activities and to share information. One hundred forty-one people attended these meetings. Two hundred sixty-seven written comments were received early in the planning effort, expressing thoughts and concerns about a vision for the future of the preserve.

In June 1998, when the preliminary management alternatives were developed, four open houses were held, one each in Strong City, Wichita, Council Grove, and Lawrence, to present these alternatives. A total of 245 people attended those meetings, and during the comment period, 324 written comments were received.

Open houses were again held in these four cities and in Topeka, in February 1999, when the draft preferred alternative was developed. One hundred fifty-six people attended these meetings; 215 written comments were received.

In conjunction with the 60 day public review of the draft GMP/EIS which began in November 1999 open houses were held in Cottonwood Falls (November 30), Wichita (December 1), and Lawrence (December 2). An additional open house was held at the preserve's administrative office in Cottonwood Falls on December 21. A total of 70 people attended these open houses. During the comment period, 69 written public comments were received. Copies of the plan were available for review in local government offices and libraries. Plans were provided to the public upon request.

The Tallgrass Prairie National Preserve worldwide website (www.nps.gov/tapr) has contained planning information since June 1997, and electronic comment sheets were posted there during the public comment period for the preliminary alternatives, draft preferred alternative, and draft GMP/EIS. Approximately 87 comments have been received through that medium.

Newsletters and response forms were available at the preserve's administrative offices in Cottonwood Falls, Kansas as well as at the historic ranch headquarters, two miles north of Strong City, Kansas.

The public comments received on the first three phases of the plan— vision, preliminary alternatives, and draft preferred alternative - were analyzed, and the results were provided to the planning team. In addition, these analyses were given to NPT, the advisory committee, some members of the Kansas congressional delegation, and other interested groups and individuals requesting the information. The public comments received on the draft GMP/EIS were analyzed and evaluated by the planning team to prepare agency responses to the substantive comments. A

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briefing on the public comment was provided to the advisory committee at their February 2000 meeting.

Public comments, existing scholarly and scientific information, new information developed out of the planning effort, information obtained during consultation, and the professional judgement of planning team members and consultants were all used to develop the preliminary management alternatives, the preferred management alternative, and the draft GMP/EIS. The preferred was not one of the preliminary alternatives but evolved from them as a result of this comprehensive process. See the section on **Consultation and Coordination** for more details.

SCIENTIFIC PANELS

The GMP team chose the use of two panels as a means of receiving scientific, technical, scholarly, and practical resource management advice and for developing broad consensus on topics and issues that would be difficult to consider without long and expensive studies. The panel participants are recognized for their contributions to our knowledge and understanding of prairie ecosystems and for their practical knowledge of resource management applications. Copies of the reports generated by these two panels are available from the preserve office.

The team used the conclusions, recommendations, and conceptual models of the panels along with the other information outlined above to develop a range of practical and reasonable alternatives for the long-term management of the preserve, the preservation of its resources, and the development of visitor use and services.

The Enhancement Panel (see Appendix 9 for panel members)

The legislation directs that the general management plan shall provide for the maintenance and enhancement of the tallgrass prairie within the preserve. Consistent with the NPS Organic Act of 1916 and the authorizing legislation for the preserve, to "maintain and enhance" is interpreted to mean that management will sustain and increase biodiversity.

Limited site-specific information has been gathered on the biological resources of the preserve. However, research on the effects of different fire and grazing regimes on biodiversity and productivity in the tallgrass prairie ecosystem has been conducted at similar locations in the Midwest. Such areas include the nearby Konza Prairie Biological Station, operated by Kansas State University, and other institutions affiliated with land grant universities, such as the Kansas Agricultural Experiment Station and Oklahoma State University.

The GMP team asked the then NPS Midwest Associate Regional Director for Natural Resource Stewardship and Science to assemble a panel of prairie and range scientists to provide expert opinions on the following issues:

1. the potential biodiversity of the tallgrass prairie ecosystem in the Flint Hills and the preserve;
2. the definition of high-quality range in the Flint Hills;
3. how fire and grazing could be manipulated to increase biodiversity of the tallgrass prairie ecosystem;
4. specific management scenarios for the preserve that would enhance tallgrass prairie;
5. inventory, monitoring and research needs; and,
6. restoration of cultivated and non-native grasslands in the floodplain of Fox Creek and restoration of other impacted riparian areas within the boundaries of the preserve.

The selection of panel members was based on their publication records and experience with tallgrass prairie ecosystems. Each member contributed to the mix of views and expertise (e.g. conservation biology, rangeland science, botany, zoology, and terrestrial and aquatic ecology).

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The facilitated workshop was held September 7-10, 1997, at Konza Prairie Biological Station and Kansas State University. The workshop participants made the following recommendations:

- Make it a high priority to gather baseline information on the biological and related physical resources of the preserve. Develop monitoring schemes to detect trends over time and space, and to evaluate the effectiveness of the management schemes that are implemented.
- Create a heterogeneous, dynamic landscape by establishing burn units that are burned at different times with an average (but variable) fire return interval of three years, by restoring bison to the majority of the preserve, and by reducing stocking rates and switching to season-long cattle grazing in the remainder.
- Restore the majority of the floodplain to native prairie, as this is one of the rarest community types in the Flint Hills.
- Build no new ponds and promote no recreational fishing. Ponds are unnatural to the system and have impacted secondary streams throughout the preserve. Recreational fishing normally involves the introduction of non-native fish that may enter and impact creeks downstream.
- Minimize development within and adjacent to the preserve. The size of the preserve is minimal for restoration of bison and fire management at a landscape scale. Developments adjacent to the preserve could impact fire management, create sources of feral animals and invasive plants, and obstruct the vista.
- Mine no gravel in the streams. Impacts include erosion, disturbance of aquatic habitat, and increased siltation.
- As springs are "hot spots" of diversity, NPS management should consider protecting those areas found to be species rich or to contain rare species from potential livestock impacts.
- Hunting should remain an option as the natural predators have been extirpated. The potential for overpopulation of white-tailed deer is a specific concern.
- Monitor and control exotic plants. Special attention should be placed on the state list of noxious weeds (e.g., musk thistle and bind weed) and taxa known to be or anticipated to be a problem in the area. (Sericea lespedeza and caucasian bluestem).

In addition, the panel developed a conceptual spatial management model to illustrate their recommendations and to serve as a starting point for the development of a holistic management scheme for the preserve. This model became the basis for the development of Management Alternative E.

The first public release of the Enhancement Panel's findings resulted in a variety of comments, some supporting the recommendations and others offering criticism regarding the scientific basis of some of the conclusions. Dr. Clenton E. Owensby, professor in the Department of Agronomy at Kansas State University, provided comment. As a result of this dialog, additional scientific input was sought and received regarding the information used to support the findings within the report. Some areas still remain open to scientific interpretation and debate, but the new

information has resulted in a revision of the first report. While new information was added to many of the discussion sections, the overall management recommendations and suggested direction remain unchanged from the original report.

The Sustainable Management Panel (see Appendix 9 for panel members)

NPS employees from the Midwest Regional Office in Omaha, Nebraska organized the Sustainable (see Appendix 7, Definitions) Management Panel and Workshop. It was held on March 4 and 5, 1998 at Emporia State University in Emporia, Kansas. The workshop was held to develop long-range management options for the preserve.

One of the major purposes of the panel was to combine practical knowledge of land use practices such as grazing and prescribed fire with the management policies of the NPS. The workshop included the involvement and efforts of private citizens, representing practitioners, and subject-matter experts familiar with the Flint Hills. Panel members had experience in livestock and bison ranching, economics, cultural geography, ecology, and recreation. Each member brought first-hand experience of life in the Flint Hills or with range management practices such as prescribed fire and grazing. Panel members were chosen from candidates recommended by the NPT, the Nature Conservancy, Emporia State University, Kansas State University, the University of Montana, and the NPS.

The panel members were recognized for their knowledge in their respective fields. They were asked to develop management strategy concepts that would fulfill the requirements of the legislation authorizing the preserve, provide recreational opportunities for the public, and preserve the natural and cultural heritage of the Spring Hill Ranch.

Objectives of the Sustainable Management Panel consisted of the following tasks:

1. Translate the Enhancement Panel's published recommendations into an on-the-ground management strategy, including evaluations of feasibility, benefits, impacts, and economic aspects of the concepts.
2. Develop additional preliminary management alternatives for the GMP team to consider and evaluate the pros and cons of corresponding management actions according to key issues such as grazing regimes, fire management policies, and visitor use.
3. Draft an economic analysis for the various management options to meet the sustainability objective stated in the enabling legislation.
4. Focus on the future of the preserve and identify the conditions that the preserve is to achieve.
5. Develop self-maintenance concepts using prescribed fire and grazing as management tools.

The panel did not reach a consensus on details such as the acreage to be devoted to each aspect of preserve use. Most panel members agreed on the following points:

- The long-term management plan should promote native species diversity and provide for visitor education on the cultural significance and history of the area from the period of American Indian use through more than a century of ranch life.

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- A combination of native grazing animals and livestock would be necessary for the promotion of biodiversity, as well as for the educational program.
- More grazing areas should be devoted to bison than to cattle.
- A fire regime with more natural fire return intervals would promote native species diversity and provide an educational and enjoyable experience for visitors.
- The ecology of the tallgrass prairie, the landscape at the time of American Indian use, and historic-through-contemporary cattle ranching should all be covered in a comprehensive interpretation program. Bison and ranching should be featured on the west side of the preserve, while the ranch buildings should be incorporated into the interpretation of historical ranching. An area of tallgrass prairie near the ranch buildings should be made available to visitors. The east side of the preserve should focus on contemporary ranching and visitor recreation.
- The group generally agreed that a visitor center should be located at the preserve's south end and not at the ranch headquarters. Factors in this recommendation include water problems, building size, visitor safety, visitor accessibility, and other concerns. A portion of rare bottomland prairie should be restored in the area now used for brome production.

These recommendations served as the basis for the development of Management Alternative D.

SECTION 2: ALTERNATIVES AND PROPOSED ACTION

In this section, a proposed action (preferred alternative) for the preserve is described along with five alternatives, including one that would not substantially change existing conditions ("no action" alternative). All of the "action" alternatives are intended to support the park's significance and purpose, achieve desired futures, avoid unacceptable resource impacts, and provide for public enjoyment of the preserve.

Alternative A ("no action") is presented first. Next are actions that are common to the proposal and to alternatives B through E. Following that is a short description of specific actions that were considered but not included as part of any alternative. The main body of this section includes detailed descriptions of the proposed action and the other alternatives. Finally, two alternatives that were originally considered but were rejected are described. Potential environmental impacts of the proposed action and alternatives are presented in the subsequent environmental consequences section.

ALTERNATIVE A (“NO ACTION”)

Usually, the “No Action” alternative encompasses the continuation of existing conditions and management practices of a park unit and is always considered to provide a baseline for comparison with the other alternatives. However, the NPT currently owns all the property (see Figure 2) within the preserve’s authorized boundaries, creating a set of circumstances different from those commonly addressed in general management plans.

The vast majority (98%) of the land within the authorized boundaries of the preserve will remain in private ownership. The federal government can acquire, only by donation, up to 180 acres (72.7 hectares) of real property within the boundaries of the preserve and may not acquire fee ownership of any other lands within the preserve. With the consent of the landowner, the remaining private property can be administered through a cooperative agreement and within the provisions of law generally applicable to units of the National Park System. These provisions include regulations issued by the secretary of the interior that allow for construction, reconstruction, rehabilitation, or development of essential buildings, structures, landscapes, and related facilities on private property.

The NPT is working with the NPS, through an interim cooperative agreement, to address many of the more immediate operational needs in facilities and grounds maintenance, utilities, health and safety, natural and cultural resources management, and education and interpretation.

Until the time it acquired the area that is now the preserve, the NPT had not managed properties long-term. Although land management is not part of the organizational mission of NPT, preserving nationally significant resources is. Because of this organizational mission, and because Congress has authorized the NPS to manage this land as a unit of the National Park System, it is assumed that, under the “No Action” alternative, the NPT would continue to own the land and the NPS would continue to provide minimal management in accordance with the terms of the interim agreement.

Preserve Management

The 35-year grazing lease between the NPT and Mr. Ed Bass would continue on the vast majority (98%) of the preserve. Current practices by the lessee include early intensive stocking and annual burning of all of the leased acreage. Existing developments necessary to support the lessee’s cattle operations would remain in place or be improved. Existing ranch and access roads would continue to be used by the lessee. The use of roads on the preserve outside of the historic ranch headquarters area, including visitor and NPS use, would continue to be managed by an access agreement between the NPT and the cattle lessee. Brome would continue to be grown in the fields across from the ranch headquarters to support the lessee’s cattle operations. Water and associated resources and riparian areas would be managed as they currently are. Stock ponds, seeps, springs, and riparian areas would continue to be used by the lessee for the cattle operation. Plants listed as noxious weeds by the state of Kansas would continue to be managed.

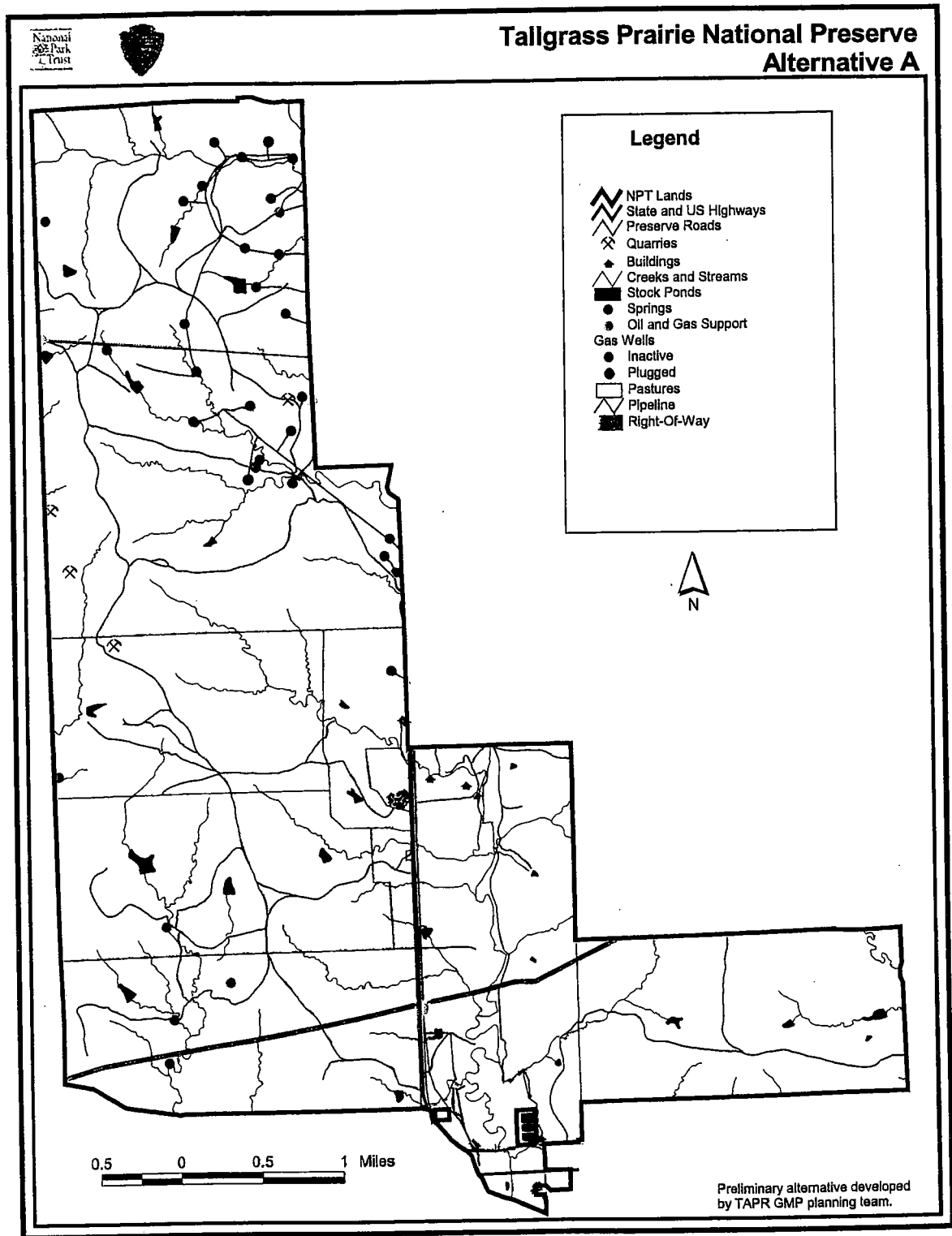


Figure 2

Forty-three acres (17.36 hectares) near U.S. 50 and the old Lantry Ranch headquarters area would continue to be leased for agricultural (crop) production. These five parcels of land would continue to be tilled, planted, and harvested annually.

Implementation

The “no action” alternative would be heavily dependent on the management direction and philosophy that NPT or future owners adopt. Unlike more traditional park areas, there is no anticipation that implementation plans, such as the Resource Management Plan and a Comprehensive Interpretation Plan, would be developed. There would be a continued NPS presence associated with the preserve. The superintendent would maintain an office, and a small staff would respond to day-to-day needs. There would be no long-range planning for the preserve, and very little or no expansion or development of additional programs and facilities.

Some of the major structures and associated developments in the historic ranch headquarters and schoolhouse areas, and portions of the landscape would receive routine or limited maintenance. The remaining structures, developments, and landscapes would not be maintained. Gas and oil lease operations and developments would remain. Structures related to the cattle operation would remain.

Limited collection or museum management programs, historic furnishings programs, or archeological and ethnographic resources management programs would be developed.

Visitation would continue to be concentrated in the historic ranch headquarters/school house area and visitors would continue to receive information and orientation in the ranch house or barn. NPT would continue operation of its sales area to provide books and souvenirs. The existing wayside exhibits and a self-guiding nature trail brochure would remain available for interpretation purposes. Prairie tours would be offered in accordance with existing access policy and the availability of equipment and personnel.

The use of portable toilets and bottled water would continue, as sewage disposal and the quality of potable water would remain inadequate for visitor use. Water supply and pressure would remain insufficient for fire protection. Visitors would continue to park in the gravel lot east of the barn and at the existing handicap parking area northwest of the barn.

Hunting and fishing would not be permitted.

ACTIONS COMMON TO ALL ACTION ALTERNATIVES

A number of actions supporting the preserve's stated significance and purpose are proposed in all of the action alternatives. These common actions are described below, and are not repeated in the descriptions of the individual alternatives.

All of the action alternatives identify "Management Areas" and "Management Prescriptions." Management areas designate appropriate locations within the preserve for specific management activities. In this way a variety of needs and desired conditions could be met within the boundaries of the preserve. For example, primary visitor services functions could be designated in an area away from prominent historic structures, so modern development would not intrude on a historic scene. Each alternative, however, contains different management areas in different configurations.

Management prescriptions identify the conditions that are desired at the preserve, given the preserve's significance, purpose, mission, and desired futures. They address resource conditions and visitor experiences, and identify the range of actions appropriate to achieve the desired conditions. Some prescriptions would apply to the overall preserve and some would apply only to specific management areas within the preserve.

Following the approval of the GMP, the NPS would enter into a cooperative agreement to formalize the relationship with NPT to manage the preserve under parameters specified in whatever alternative would be selected. Because of the 35-year cattle grazing lease between the NPT and Mr. Bass, implementation of any of the action alternatives would require the buy-back of at least some portion of the current lease.

The NPS would actively seek partnerships and opportunities for cooperation with local communities, government agencies, non-profit organizations, and other entities that may have an interest in helping to achieve the preserve's desired futures. The NPS also would cooperate and partner to help others achieve their goals outside the preserve, when such cooperation would also advance a purpose for which the preserve was created. The NPS would work with others to identify and pursue funding, staffing, and other resources in addition to the base operating funds provided through the federal budget process.

The NPS can acquire only up to 180 acres (72.7 hectares) and only through donations of land from the landowner. Initially, approximately 29 acres (11.7 hectares) would be acquired which would include the historic ranch headquarters, the school, and an area around the school (see Figure 3). The exact acreage and boundary would be established through a formal land survey. In addition to the 29 acres, other areas may be acquired for up to a total of 180 acres as development and operational plans and study recommendations are implemented. Such needs as the protection of significant, threatened, or endangered resources; safe and convenient visitor access; or the development of facilities may result in additional requests to the landowner to donate land. Before requesting additional acreage, the NPS would carefully analyze alternatives to acquisition to avoid having to use any of the 180 acres (72.7 hectares).

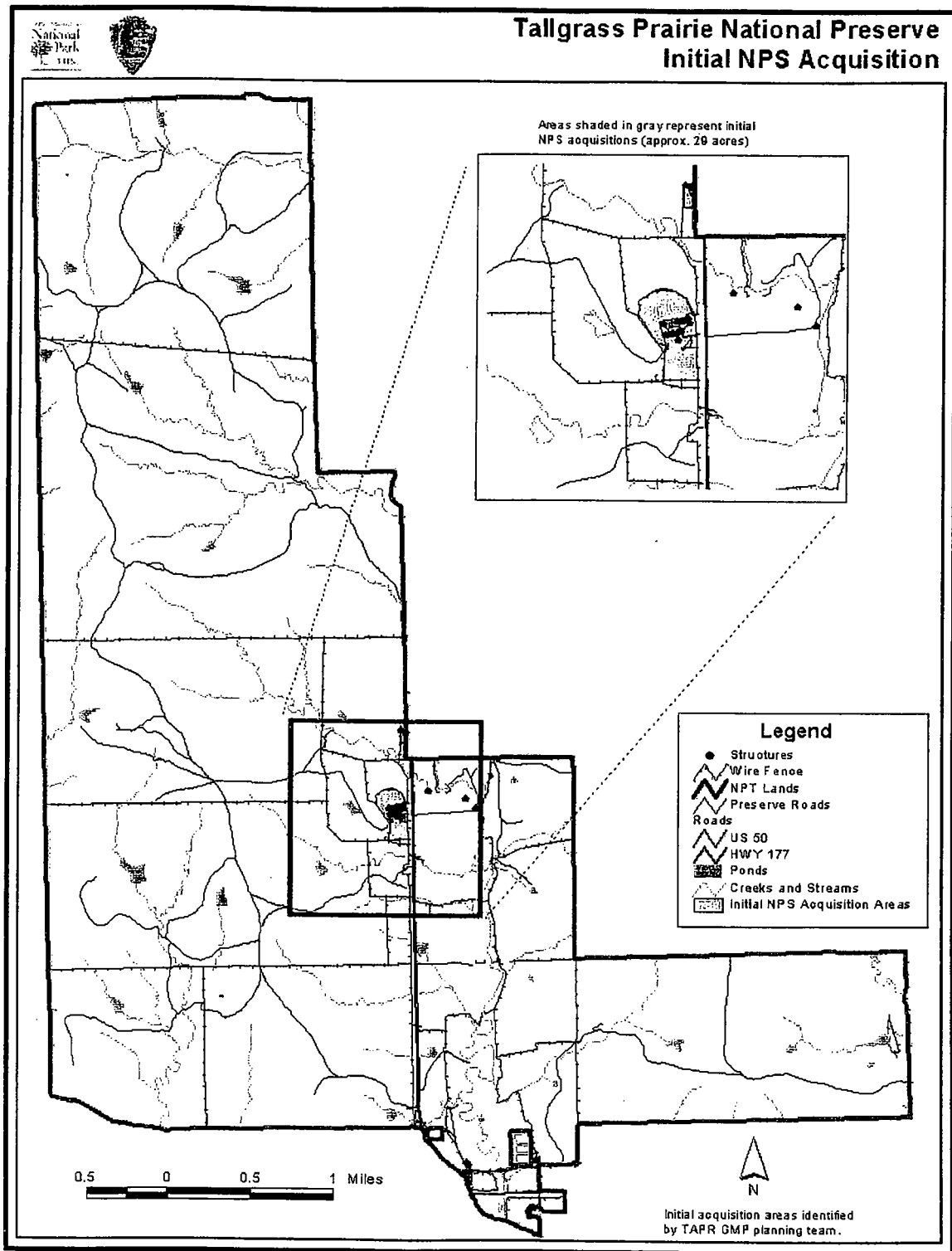


Figure 3

As part of the development of this GMP, the planning team also evaluated the adequacy of the preserve's boundaries to protect resources and provide for visitor use. It is the team's opinion that the current boundaries would be adequate. No boundary adjustments would be necessary and none would be sought.

The NPS is required by law to address carrying capacity in GMPs. Each GMP must include identification of and implementation of commitments for visitor carrying capacities for all areas of the park unit. The proposed action and each of the action alternatives assume that managers would take actions to keep visitation levels in line with the goals of the alternative and would maintain resource protection and quality visitor experiences. The management prescriptions in the alternatives describe carrying capacity in qualitative terms. Quantitative measures of carrying capacity would be determined over time through implementation of a systematic inventory and monitoring program and the development of a Visitor Experience and Resource Protection (VERP) analysis and implementation plan (See Appendix 2).

The following are those prescriptions that would apply to the preserve under all of the action alternatives, which excludes the "no action" alternative.

- The preserve would be managed to maintain and enhance the tallgrass prairie within its boundaries. This would be achieved in part through the use of fire and historic and contemporary grazing regimes in differing combinations that vary over time and location. A Fire Management Plan would be developed with public participation. It would address such topics as program objectives, fuel management, burn frequency and prescriptions, natural prescribed fire, the monitoring and researching of fire effects, safety, and equipment use and personnel needs.
- Prescribed fire applications would make use of roads, fences, stream courses, topography, and burn frequencies to create a varied landscape, or vegetative mosaic, to help maintain and enhance the tallgrass prairie, and to encourage and manage the wide variety of native plant and animal life associated with the prairie.
- Riparian areas would be protected to prevent erosion and the further loss of vegetation. Some of the associated fields within the Fox Creek riparian area would be restored to the native vegetation that once grew here. This would provide an example of a rare bottomland prairie containing species common to deeper soils and wetter sites, and would allow for the expression of tallgrass species ranging in heights of six feet (1.83 meters) or more.
- State and federal threatened and endangered species and species of concern would be considered in all management actions to meet federal and state mandates to protect or enhance the populations of these species.
- Management activities related to noxious weeds, pesticide use, animal health, maintenance and installation of fences, water, and waste disposal would be in conformity with NPS policy and consistent with applicable state laws.
- With the exception of agricultural crops that may be reintroduced to areas to recreate a historic scene, no alien, non-indigenous species would be introduced within riparian areas or areas of native prairie. Existing exotic species that would impact preserve resources in a negative manner and/or would spread rapidly would be removed or controlled where practical. Within already disturbed sites, species that are not native (for example, some

agricultural plants) might be introduced for interpretation or cultural landscape restoration purposes, if the species could be easily controlled and they would not expand beyond a prescribed area.

- In accordance with Section 1005(g) (3) (G) of the enabling legislation for the preserve, the Secretary shall honor each valid existing oil and gas lease for lands within the boundaries of the preserve (as described in Section 1004 (b)) that is in effect on the date of enactment of this act.
- The owner of subsurface minerals would be encouraged to work cooperatively with the production lessee to minimize impacts such as erosion, vegetation loss, and soil compaction that are associated with oil and gas production.
- When the mineral (oil and gas) lease permanently expires and/or gas wells are plugged and abandoned, the areas would be rehabilitated and tallgrass prairie restored. Rehabilitation would include removing the visual signs of production such as aboveground pipe and wellheads, eliminating the effects to vegetation caused by salt water disposal from the wells, and reclaiming areas of soil erosion and compaction. Visual impacts associated with gas and oil operations would be minimized and mitigation measures would be implemented where impacts remain unavoidable.
- Systematic block inventories would be conducted throughout the preserve to identify the range of archeological and ethnographic resources present. Significant archeological and ethnographic sites would be preserved and protected, and public access to these sites would be controlled. Sensitive archeological and ethnographic sites requiring additional protection would not be accessible to visitors, and transportation routes would be directed away from them.
- Artifacts, archival material, natural history collections, and oral histories relating to and directly associated with the preserve would be collected, preserved, and managed for use in museum exhibits, interpretation programs, and public and scholarly research in accordance with an approved Scope of Collections Statement.
- A variety of visitor activities and facilities, appropriate for a national preserve, would provide for a range of opportunities, time commitments, and levels of physical exertion. "Appropriate" is defined as an activity or facility that (1) is consistent with the purposes for which the preserve was established, (2) has no more than nominal impact on the natural and cultural resources of the preserve, and (3) does not conflict with another appropriate visitor use.
- A range of on-site interpretive and educational programs would be available, focusing on the natural history of the tallgrass prairie, Flint Hills ranching legacy, and American Indian history and culture. These stories are represented by the interpretation themes of the preserve and would be developed further through the Comprehensive Interpretation Plan.
- New development would be minimal and designed to avoid intrusion into and degradation of important views and cultural landscapes. Development of support facilities would be sufficient to meet visitor experience goals, and health and safety requirements.
- During preservation treatments, the necessary infrastructure, such as water, sewer, and mechanical and electrical systems would be upgraded, rehabilitated, and/or replaced to meet all applicable county, state, and federal codes and guidelines.

- Ethnographic resources would be identified and monitored. Specific resources may be made accessible to culturally affiliated tribes or traditionally associated groups by request. Any identified American Indian sacred sites would be protected, with access for sacred ceremonies allowed to appropriate Indian tribes.
- A Vegetation Management Plan would be developed that would utilize current science and resource management knowledge to guide vegetative management restoration within the preserve. After suitable public review and comment, this document would address specific goals and objectives for those vegetative restorations such as brome fields within the Fox Creek bottomlands, areas impacted by gas operations, erosion sites, and areas subject to noxious weed control; it would also address grazing regimes and stocking rates.
- Grazing animals would be cattle and bison separated by adequate fencing.
- A Bison Management Plan would be developed with public participation that is consistent with laws, policies, and procedures applicable to the NPS. The plan would address such topics as initial herd size, location and size of the reintroduction area, bison health and ecology, and the distribution of surplus animals.
- In areas of higher visitor use, such as the historic ranch headquarters area, visitor movement and access would be controlled to ensure resource protection while accommodating high-density use; these controls may include limited improvements such as walkways, barriers, benches, and interpretive and informational signs.
- Using existing roads and roadbeds, a public transportation system, such as a shuttle, would provide transportation to various points within the preserve, interpretive tours, and access to the prairie.
- The NPS would work with the landowner to determine and evaluate what encumbrances are on the property such as existing special uses, including rights-of-way, easements, and agreements. Encumbrances would continue so long as they do not become detrimental to the resource and to visitor experiences. They may be eliminated if the NPS and the landowner find it desirable and as opportunities present themselves.
- Access to all areas may be restricted during periods of extremely high fire danger. Restrictions on the use of fire and smoking may be required during portions of the year.

Note: Implementation Plans listed in Appendix 2 of the GMP such as the Bison Management Plan (BMP), Fire Management Plan (FMP), etc. may be single plans for one or more activities. For example, the FMP plan might discuss wildfires and prevention as well as use of prescribed fire to achieve resource management objectives. Such plans may also overlap with each other in details or action items. For instance the FMP might discuss range conditions and fuel loads (amount of grass in tons/acre) while the BMP may outline similar topics as part of forage concerns. Differing dates of completion may require these plans be separate while recognizing the commonality of their subject matter, as in the above example. (National Park Service Management Policies: 2000 draft). The need for separate implementation plans for the purpose of tracking program priorities and budgets is also a continuing need. However, with the advent of the National Park Service Restructuring Plan, park-wide goals for the Government Performance and Results Act, and the flattening of service-wide budgets, the need to make major programming decisions on a park-wide basis requires some integration of such plans. (NPS Director's Order 2, Park Planning)

POSSIBLE ACTIONS ELIMINATED FROM FURTHER STUDY

Certain potential actions identified during public scoping and other early phases of the planning process were given no further consideration. This section highlights a few of those actions, and outlines why the actions were not included within any of the alternatives.

Reintroduction of Other Native Ungulates: A number of comments were received favoring the reintroduction of other native ungulates, especially *Antilocapra americana* (pronghorn antelope) and *Cervus canadensis* (elk). Historically, the dynamics of fire, grazing, and climate were played out on a much larger scale and these animals moved over great distances and very large open spaces. Such conditions no longer exist. The presence today of fences, developments, different land uses, and individual properties pose particular problems for managing these species.

The preserve lies in the eastern most part of the pronghorn antelope's natural range. The climatic conditions are marginal for their health and successful reintroduction. Previous attempts to reintroduce pronghorn antelope in the region have been hampered by both climate and high rates of predation, primarily from coyotes. It would be very difficult to establish and maintain a herd and to keep them within the boundaries of the preserve (Sorensen, personal communications).

It is recognized that elk help maintain diversity due to their grazing patterns, and such alteration of vegetation benefits rodents and birds. The prairie would provide adequate forage for elk, as the majority of their diet is grasses or forbs, but the habitat may be marginal due to the size of the pastures. Most of the trees and shrubs that would provide cover are in the riparian areas and one management objective of the GMP is to provide protection for these areas; therefore, the amount of shelter available for the elk would be limited. While elk could be kept in small areas, such as pastures, it would be important to treat elk as a component of the ecosystem and avoid a zoo-like environment. In addition, it would be necessary to get staff in place to manage the bison, monitor their effects and their health, and conduct necessary research; to introduce and manage elk at the same time would be extremely taxing on personnel and fiscal resources. There would be significant additional costs for the fencing and other developments needed to manage the elk herd and to protect neighboring property. Such developments may be intrusive on the landscape. Frequency of escape through areas like water gaps and the difficulty of maintaining fences are concerns in protecting neighboring properties. The costs and procedures for monitoring the elk for disease and parasites while trying to establish a bison herd were evaluated as well as the concerns for stress on elk when they must be moved for health evaluation and vaccinations.

PREFERRED ALTERNATIVE (PROPOSED ACTION)

NOTE: To fully understand this alternative, the reader should remember that the alternative consists of those actions described below *in addition to* the actions described in the “Actions Common to All Action Alternatives” section. We also suggest that the reader review the Mission Statement and Desired Futures to ensure a clear understanding of the goals of the alternative.

Two fundamental ideas formed the basis of this alternative: 1) the preserve is a unit in the National Park System established to preserve, protect, and interpret for the public a remnant of the once vast tallgrass prairie ecosystem; and 2) this remnant exists today because of a complex history of interaction between people and land.

The focus of this alternative is the integrated management of the natural and cultural resources of the preserve, which reflects the intertwining of these resources. The management of the natural resources at the preserve would focus on the ecological, educational, and inspirational values of the tallgrass prairie, and on understanding and facilitating the processes that would permit the prairie to fully express itself.

Many of the cultural resources within the preserve are clustered in sites and complexes that represent more than one historic period, and have associations with more than one major historic theme. Two completed studies, the Historic Resource Study (HRS) and the Cultural Landscape Report (CLR), evaluate cultural resources as they relate to the local history of the Flint Hills, the regional history of the Plains, and national trends. The HRS agrees with the National Historic Landmark designation's national level of significance (1878--1904). Additionally, the report finds that the built and natural resources of the property are important for their ability to represent the convergence of the environmental, economic, and cultural factors that transformed the American West in the years between 1878-1993. The HRS suggests that both 19th and 20th century resources are significant at a local level according to National Register of Historic Places criteria for Chase County and the State of Kansas (Hal Rothman and Associates 1999, National Register Appendix).

Phase I of the draft CLR also supports the national level of significance by identifying many landscape resources associated with the property's National Historic Landmark status. The CLR notes that the environment of the Flint Hills both constrained and sustained ranching and agriculture carried out on the property. Additionally, the CLR determined that many cultural landscape features illustrate a broader evolution of cattle ranching at a local level of significance. The ranch represents one pattern of agricultural development in Chase County through the mid-20th century. The railroads played a critical role in this local economic development, first enabling, then sustaining the larger cattle operations of the area until cattle shipment shifted to trucks in the 1960s-1970s (Quinn Evans 1999:3-1 to 3-5)

The HRS, CLR, and additional studies and plans will guide management decisions and help determine the focus of interpretation at the various complexes in the preserve. Such studies and plans include a Resource Management Plan, a Comprehensive Interpretation Plan, ethnographic studies and archeological studies.

Under this alternative, the preserve would not be managed as a research facility. However, decisions regarding natural and cultural resources would be guided by information generated

through research and by ongoing inventory and monitoring programs. These programs would examine the effects of various resource management approaches, such as fire, and historic and contemporary grazing regimes, and the impacts of visitor use and associated activities. Research conducted by other agencies and at other facilities such as the Konza Prairie Biological Station near Manhattan, Kansas could be applied to the preserve and refined by experience.

Four management areas would be specified in this alternative: Visitor Information and Orientation Area, Flint Hills Ranching Legacy Area, Day Use Area, and Prairie Landscape Area (see Figure 4).

Preserve Wide

The following proposed management guidelines would apply to the entire preserve.

- Small plots would be used to demonstrate alternative prairie management practices for public education and interpretation purposes. These areas might be cut for hay; they might be managed through a fire regime only, without grazing; or they might be removed from a fire regime over a long period of time. These areas would help demonstrate the effects of various management actions on the tallgrass prairie and would help to satisfy visitor experience goals.
- Springs, seeps, and their associated streams would be provided additional protection if found to contain unique or rare native plant or animal species. Impacts by visitors, cattle, and bison would be minimized. These areas would be monitored and may be restored with vegetation; they may be stabilized; or they may have cattle, bison, or visitor access restrictions placed on them, depending on the level of additional protection required.
- Many spring boxes, dams, and stock ponds would be maintained and would continue their original use after an inventory, evaluation, and determination of operational value and historical significance. Criteria for this evaluation would include National Register of Historic Places criteria, flood control value, plant and animal species present, potential use in control of grazing patterns, and whether or not there is a connection to perennial springs (springs that flow all year). Some stock ponds found to be of low value based on this evaluation may be removed and, where feasible, the areas restored to prairie. Such restorations would allow spring hydrology to be restored.
- Some species, such as white-tailed deer, lack sufficient natural predators to adequately control the population. If they become overpopulated they may threaten preserve resources. These species would be monitored, and if resource impacts are recorded, control actions (hunting or controlled reduction) may be implemented. A management plan would be prepared, and would involve public review and comment, prior to any control actions. Hunting would be used only as a tool to achieve specific resource management objectives.
- Some existing features may be removed and non-essential uses may be terminated. Infrastructure development would be minimal to protect natural and cultural resources and cultural landscapes, and to maintain important views.
- During preservation treatments, full consideration would be given to historic fabric, landscapes, adaptive use, and visitor needs and safety.

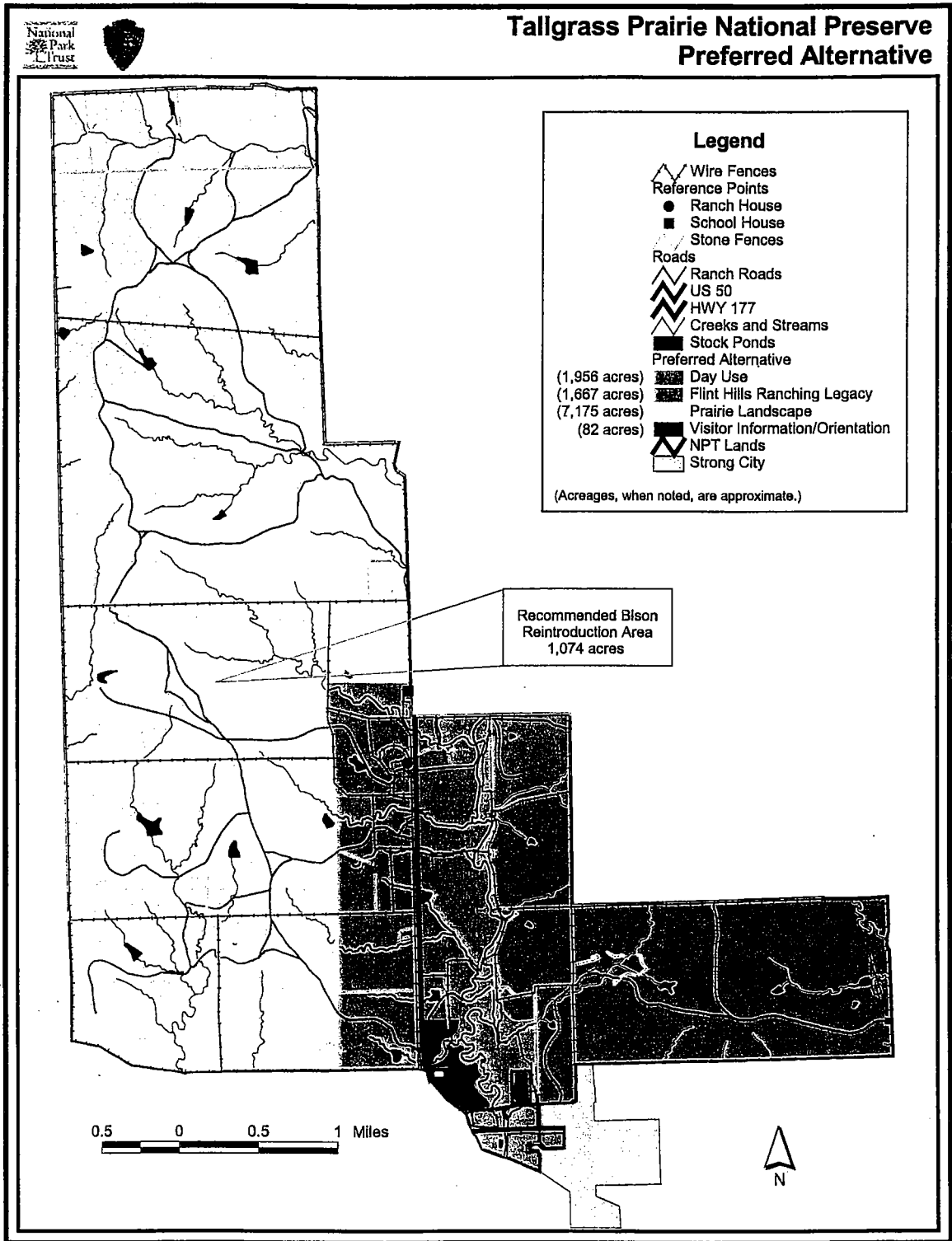


Figure 4

- No vehicle-accessible campgrounds would be provided in order to reduce impacts on the preserve's natural and cultural resources, and views.
- Existing roads that contribute to the historic character would be used for management purposes and for non-motorized access to all areas of the preserve in order to minimize the need for additional trail development.
- Site specific standards would be developed for the evaluation, placement, and maintenance of roads within the preserve, in order to retain historic character, minimize erosion and the loss of prairie, and avoid intrusion into important views. While some roads may be part of the historic landscape, they may be removed or relocated where necessary to protect important resources, historic character, or views.

Visitor Information and Orientation Area

Primary visitor information and orientation would be offered in this management area, with a visitor center located near the junction of State Route 177 and U.S. 50, or in closer proximity to Strong City. This would provide the initial "first stop" for visitors, allowing them easy access to basic information about the preserve and nearby community resources and services, and enabling them to orient themselves and plan their visit. It would also serve as a primary staging area for the public transportation system and for basic education and interpretation efforts. This area would be located out of the floodplain and would be expected to receive the greatest concentration of visitor use. In this management area, visitors would have little need to physically exert themselves or make a long time commitment in order to learn about the preserve.

- This management area would include visitor and administrative facilities such as offices, museum collections and archives storage, a maintenance area, parking areas, and a public transportation center.
- A multi-purpose visitor center would take advantage of existing or proposed utilities. It would complement visitor services located in and near Strong City and Cottonwood Falls. The exact location would be selected to minimize impact on the prairie, retain aesthetic views, and preserve natural and cultural resources.
- Development within the preserve would be located near the boundary; it would be minimal and the design would be sensitive to the cultural and natural environment. New development would maintain harmony and continuity with the special visual qualities of the landscape and with the natural and cultural features that create a sense of time and place unique to the preserve. If primary visitor facilities are located outside the preserve, limited and sensitive development would be allowed in this area to create an inspiring and efficient portal to the preserve.
- Interpretation and education efforts in this management area would focus on orientation, information, primary interpretive stories, and bookstore sales.

Flint Hills Ranching Legacy Area

The boundary of this area would be largely determined by the landscape as it is viewed from primary points such as the ranch house, the barn, and the area between the historic ranch headquarters area and the Lower Fox Creek School. Within this management area, existing

fences (stone and wire), and topography would be used as the physical boundaries for implementation of management actions. This management area would serve as the primary focal point for interpreting the story of ranching in the Flint Hills region. The cultural resources would be the primary resource of concern here.

Protection of the cultural resources would be emphasized and sound range management practices would be employed. Effects of grazing, applied fire, and visitation would be monitored to ensure resource sustainability. Visitation to this area would be heavy, and would result in heavy use of the resources, particularly those in the ranch headquarters and schoolhouse areas. Visitor physical exertion would be easy to moderate and include opportunities to walk through historic structures and the landscape. Time commitments may range from one to several hours.

- Historic breeds of domesticated livestock would be the predominant grazing animals in this area. Domestic livestock activities, such as cow/calf operations, would afford visitors an opportunity to observe ranching in all seasons. Historic grazing regimes and breeds would be used to interpret the historic ranching practices.
- The ranching character of the historic Z Bar/Spring Hill Ranch headquarters would be retained to the greatest extent possible. The ranch house, barn and associated outbuildings, and landscape features would be restored, rehabilitated, and/or preserved according to the recommendations made in the CLR and HRS. Preservation of cultural resources would be supplemented by interpretive activities so visitors would understand the broad history of ranching in the Flint Hills from the mid-19th century through the late 20th century. Some non-contributing buildings may be removed after the completion of the HRS and CLR, and after proper consultation with appropriate agencies. Some structures, or portions of structures, may be managed as historically furnished interiors.
- The Lower Fox Creek School and its associated landscape features would be preserved according to recommendations made in the HRS and CLR, and their association with rural education of the late 19th and early 20th centuries would be interpreted.
- The Lantry Deer Park Place outbuildings located within the preserve boundary represent the evolution of ranch management from the mid 19th century through the late 20th century. The structural tile barn, stone chicken house, frame barn, and associated landscape features would be preserved according to recommendations made in the HRS and CLR. The structures may continue to be adaptively used. This area would not be actively interpreted onsite and would not become a major visitor site. Other significant historic structures and landscape features important to the interpretation of the preserve's cultural history would be identified and preserved.
- Historic structures and landscape features (such as fences, roads, trails, bridges, drainage structures, sheds, and barns) would continue their historic uses, or would be adapted for modern uses for interpretation and preserve operations, if such actions would not damage those resources. Some structures may be rehabilitated for other uses.
- Significant fencelines associated with historic agricultural areas would be restored and preserved. Historic crops may be planted to help interpret the agricultural and ranching history.
- Interpretive and educational programs within this area would focus on those activities associated with ranch operations, such as livestock grazing or the demonstration of historic farming and ranching practices in the Flint Hills. Programs may include staff-guided tours of

historic buildings, self-guided activities such as walking nature trails, and organized activities for school groups and bus tours. Some seasonally-oriented programming related to ranching activities may be presented here as well. Wayside exhibits and publications might also be used to interpret these stories.

- Along Fox Creek, a remnant of the rare bottomland prairie community would be restored to provide examples of species extirpated from the area (species previously removed by plowing and the planting of non-native species), and for interpretation of this rare plant and animal community and the pre-agricultural prairie. Trail development may be considered.

Day Use Area

This area would include the lands east of the Fox Creek bottomland. It also would include the agricultural areas adjacent to the east/west county road. This area would offer day use opportunities for visitors to experience and learn about the tallgrass prairie, its associated ranching history, and American Indian cultures through a variety of visitor activities. Visitation to this area would be expected to be moderate to heavy, which has the potential to impact cultural resources, such as archeological sites and historic fencelines. While these resources would be protected as needed, and the prairie would be maintained in good condition, the focus of the area would be on providing opportunities for visitors to experience the preserve and explore its resources.

- Cattle would be the dominant grazing animals in this area. Grazing regimes, including placement of cattle and pasture use, would not interfere with the dispersed visitor use of this area.
- Significant archeological sites, historic structures, and landscape features would be documented, stabilized, and protected as needed.
- A range of non-motorized day use activities such as hiking, horseback riding, or fishing, would be permitted if impacts to natural and cultural resources could be managed and conflicts among users minimized. Some of these activities may be limited to guided group activities.
- The proximity to Strong City would allow flexibility for private partnerships and concessions to be developed. This flexibility could allow visitor related services to be developed outside the preserve.

Prairie Landscape Area

The emphasis in this area would be the management of the prairie through the use of both cattle and bison, while providing a variety of opportunities for the visitor to experience the prairie and prairie landscape. Opportunities for the visitor to experience quiet and solitude, the views, the relationship of earth and sky, wildlife, the multitude of flowering and other native plants, and the effects of various regimes of fire and grazing animals would be the focus. Bison would be an important element not only for their historic role within the tallgrass prairie ecosystem but also in meeting the visitor's expectations and thoughts about the prairie. Visitors would be required to spend more time and energy to engage in opportunities in this area, either by foot or on a guided tour by shuttle or bus.

ALTERNATIVE C

NOTE: to fully understand this alternative, the reader should remember that the alternative consists of those actions described below *in addition to* the actions described in the “Actions Common to all Action Alternatives” section. We also suggest the reader review the Mission Statement and the Desired Futures to ensure a clear understanding of the goals of the alternative.

In Alternative C, the visitor experience goals would be the primary focus of management activities. In this alternative, the preserve would be divided into three management areas: a development area, a moderate use area, and a dispersed use area. Impacts on natural and cultural resources would be considered, and likely impacts to resources would be mitigated through appropriate design and placement measures.

The small development area would support the most concentrated use and would include the visitor center, support facilities, and a transit station for public transportation. The use of personal vehicles would be restricted to this area.

The moderate use area would accommodate less intense, but still relatively high levels of visitor use. More staff involvement would be required in this area to provide interpretation, visitor management, and administrative activities such as event organizing. The historic ranch headquarters house and associated buildings would be included in this area. Domestic livestock would be the only grazer, and would provide an opportunity for the interpretation of the ranching legacy. Visitor transportation would include public transportation and trails.

The dispersed use area would be managed for prairie enhancement through fire, varying the frequency and season to promote heterogeneity, and through the grazing of native ungulates. Visitor activities in this area would be more dispersed to provide greater opportunities for solitude and personal experience with the prairie. Visitor access within this area would be restricted to non-motorized means (see Figure 6).

Preserve Wide

The following management prescriptions would apply to the entire preserve.

- Physical controls on visitor movement and access would provide for resource protection while accommodating high levels of use.
- Development of campgrounds would not occur inside preserve boundaries.
- Cultural resources representing “best examples” for the interpretation of the continuum of human interaction in the Flint Hills Region would be restored and preserved; other structures and buildings would be stabilized.
- Archeological sites would be preserved and protected; public access to these sites would be limited.
- The level of protection afforded seeps and springs would be based on the uniqueness of native species present, potential impacts by visitors, and the presence of grazers.
- The riparian areas impacted by past land use practices would be restored.

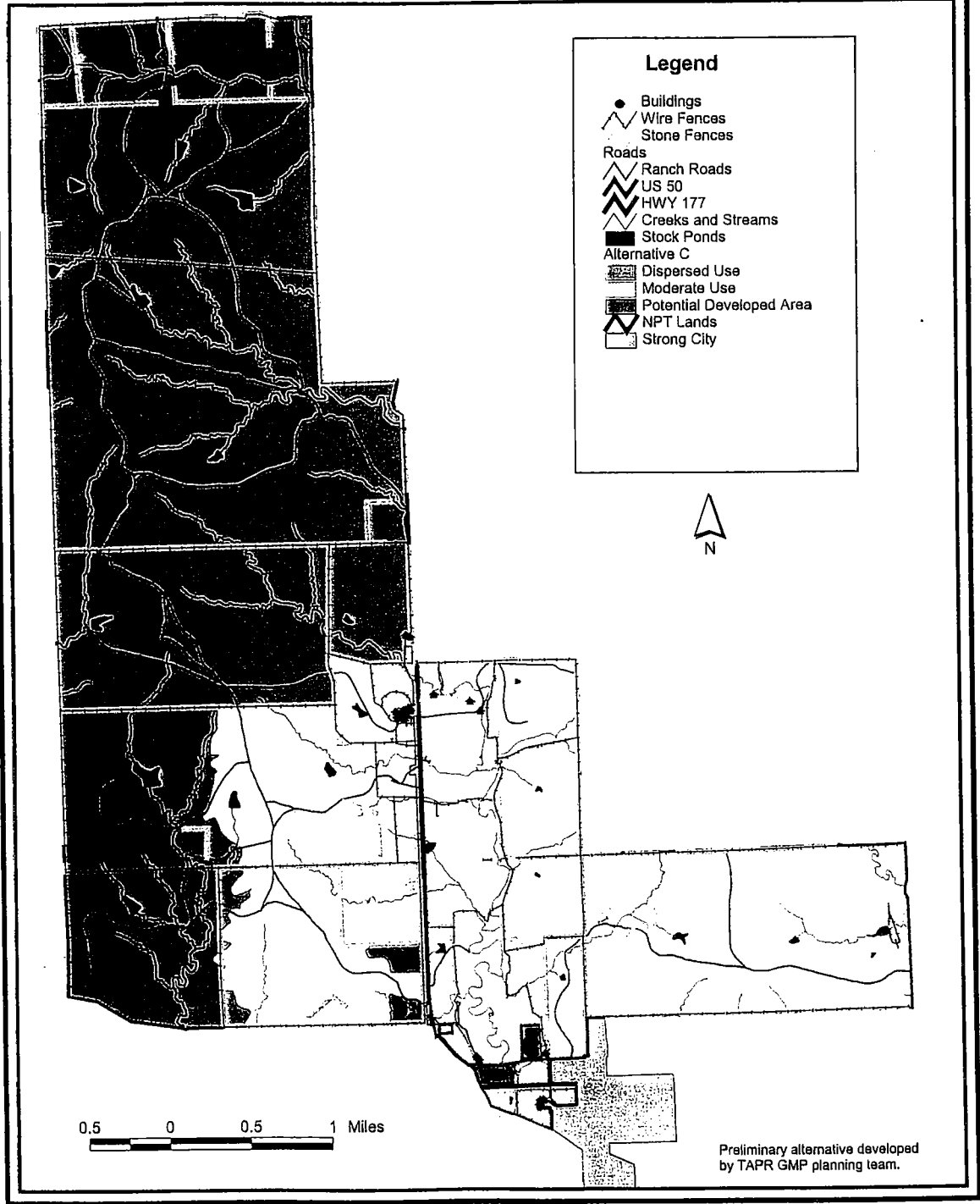


Figure 6

- Management decisions regarding natural and cultural resources would be guided by an ongoing inventory and monitoring program, with a primary focus on the visitor impacts on the resources.

Development Area

The development area would be relatively small and located away from sensitive natural and cultural resources, and views. It would be designed to provide convenient and easy access to the preserve in such a way that visitors would have little need to physically exert themselves or make a long time commitment. This area would include visitor and administrative facilities such as a visitor center, maintenance areas, parking areas, a transportation transfer station, and possibly, concessions. In this area, new development, including buildings, structures and other signs of human activity would be fairly obvious, but natural elements would also be present.

- Development would be located near or adjacent to the preserve boundary. Non-traditional, non-historic uses would be removed or limited to those deemed essential for preserve operations.
- Visitor facilities would provide orientation, information, and education about the tallgrass prairie.
- Hardened paths connecting the facilities within this area and to trails in the moderate use area would be appropriate.
- Visitor use would be controlled to reduce potential impacts.

Moderate Use Area

This area would include natural and cultural features of special interest, such as the historic ranch buildings, the Lower Fox Creek School, and demonstration plots restored to their historic agricultural uses. Day use, interpretation, and educational opportunities focused on the prairie and Flint Hills ranching would be emphasized. This area would offer a fairly structured visitor experience in a natural and cultural setting. Facilities, activities and programs would be designed for visitors with a short time commitment, and would require minimal outdoor skills and little physical exertion. While opportunities for solitude would be available in this area at certain times of the day or year, visitors would likely encounter other visitors and preserve staff. No overnight use would be permitted.

- Cattle would be excluded from the Fox Creek riparian area. The prairie would be restored and historic agricultural demonstration plots would be established in the Fox Creek bottomland.
- Cattle operations in this area would include cow-calf and season-long grazing, which would afford visitors an opportunity to observe ranching operations in all seasons. Animal management facilities would be located to optimize visitor education opportunities and minimize impacts on the cultural landscape.
- Interpretation and education activities would include programs of a more social nature, e.g. ranger led walks and talks, yet would be designed to minimize impacts on the more sensitive areas of the preserve.

ALTERNATIVES AND PROPOSED ACTION

- Management of resources would allow for self-guided visitor activities by providing public transportation, transportation transfer sites, and hardened trails.
- Facilities, developments, and signs would be designed to accommodate high levels of visitation, yet minimize impacts on natural and cultural resources.
- Off trail uses would be restricted to protect natural and cultural resources.
- Significant cultural features, such as the barn, school, and ranch house would be restored to their periods of significance and would be made accessible to visitors.

Dispersed Use Area

This area would offer visitors an unobstructed experience in the natural setting of the tallgrass prairie. Activities in this area would be more challenging and adventurous, requiring visitors to commit a block of time, have some outdoor skills, and exert themselves. A relatively high level of management would be provided for resource protection and visitor safety.

- Prairie enhancement would be obtained through the use of a heterogeneous fire regime and grazing by native ungulates.
- Visitor activities would be dispersed to offer the opportunity of more solitude and personal experience with the prairie. Low density, dispersed, and regulated primitive camping opportunities would minimize resource impacts.
- A wide range of non-mechanized recreational activities, such as trail use, hunting or fishing, would be permitted if impacts to natural and cultural resources could be managed and major visitor conflicts avoided.
- No trails or facilities would be developed or maintained; signs would be minimal.
- Existing roads not necessary for resource management or oil/gas operations would be removed and the areas rehabilitated. No motorized access would be allowed, except for administrative purposes or oil/gas operations.
- Water impoundments would be removed where feasible. Native ungulates would in part rely on streams, springs, and seeps for water.

ALTERNATIVE D

NOTE: to fully understand this alternative, the reader should remember that the alternative consists of those actions described below *in addition to* the actions described in the “Actions Common to all Action Alternatives” section. We also suggest the reader review the Mission Statement and the Desired Futures to ensure a clear understanding of the goals of the alternative.

In Alternative D, two primary thrusts would form the focus for management activities at the preserve: the story of the tallgrass prairie ecosystem, including native grazing animals, and the story of ranching in the Flint Hills. Interpretation and education would focus on the tallgrass prairie ecosystem and the subsequent human interaction with the prairie including both American Indian histories and cultures, and ranching history. The ranching component would include interpretation on how ranching produces market goods. Demonstrations of ranch activities would provide some of the recreational opportunities as well as interpretive and educational efforts at the preserve.

In this alternative, the tallgrass prairie ecosystem would be managed to promote diversity of native species and to maintain a functioning ecosystem. This alternative would require intensive management, including close monitoring to ensure the integrity of the prairie is not compromised through over-utilization that might cause a shift toward undesirable species, including noxious weeds (see Figure 7).

Preserve Wide

The following proposed management guidelines would apply to the entire preserve.

- The opportunities for community partnerships would be great in the area of recreation. The proximity to Strong City allows for flexibility; visitor related activities could be conducted in the southern reach of the preserve without on-site facility development.
- Enhancement of prairie diversity would occur to the extent that it represents the biological conditions of the historic tallgrass prairie.
- Riparian zones along Palmer Creek and other drainages would be protected from livestock impacts to ensure water quality and streambank stability. They would be maintained to provide visitors with an understanding of prairie riparian areas.

Grazing Area

- The grazing area would constitute the majority of the preserve acreage and would be devoted to the enhancement of the diversity of the tallgrass prairie. Grazing and prescribed fire would be used to manage the tallgrass prairie. Native ungulates would occupy most of the acreage, while cattle (both cow-calf and yearling operations) would occupy a smaller portion of this area. The cattle would enhance the story of the site’s ranching history. Physical exertion in this area would be moderate to heavy and depend on the time allotted and route chosen. For example, a walking route along Fox Creek to the historic ranch headquarters area would be on developed trails over relatively flat terrain and could be accomplished in one to two hours. However, a hike to the more remote areas would require the visitor to be in good physical condition, carry some provisions, and make a lengthy commitment of time.

- Recreational opportunities would include such activities as bus or shuttle tours on hardened roads. Dispersed use, such as trail rides, wagon rides, or hiking, would be allowed in pastures containing livestock herds composed of “docile” animals or when pastures were out of a grazing cycle. This could minimize human/animal conflicts.
- Existing fences would remain to delineate pastures and provide flexibility for preserve operations; where practicable, rock fences would be rehabilitated for continued use but improved fences might be needed.
- Distribution of native ungulates and livestock would be done in such a way as to be compatible with respective settings or surroundings. The majority of grazing acreage would be native ungulates.
- Having livestock in this area would reflect their historic presence for nearly a century.
- Significant cultural resources would be identified and evaluated. Principle structures would be documented, evaluated, and recommended for treatment to complement use in this area. Cultural sites along those routes used for interpretation purposes would be recorded and stabilized. Other cultural sites would be recorded and allowed to deteriorate.
- Ethnographic resources would be maintained and accessible for traditional practices; non-sensitive historic and ethnographic resources would be interpreted onsite and access to sensitive areas would be restricted.
- Visitor activities in this area would be more structured and subject to closer control when grazing animals were present.
- Ranch roads would provide foot access to pastures when feasible, or access for bus and shuttle tours when appropriate for viewing the landscape.
- Impoundments not associated with either Fox or Palmer Creek drainages would provide recreational fishing opportunities.
- A limited number of roads would be developed to accommodate controlled visitor access; minimum tread standards would be used for walking trails, and hardened or improved stream crossings would be provided.
- Where appropriate and practical, stock ponds would be removed and sites restored to preconstruction conditions to protect significant native aquatic species.
- Managing wildlife populations through hunting would be appropriate if offered in such a way that conflict with other visitor uses could be avoided.

Ranch Operations Area

The resources in this area would include the existing Southwind Nature Trail, between the school and the ranch house, and a windbreak surrounding the ranch headquarters complex. Management of the landscape would include appropriate fire prescriptions. Special attention would be given to both the windbreak, and to treatments necessary for the protection of the structures and for ease of operation. The ungrazed prairie adjacent to the trail would support a more diverse assemblage of species. This area would receive the highest visitor use and provide visitors with an “up close” prairie experience. Physical exertion in this area would be easy to moderate as visitors would

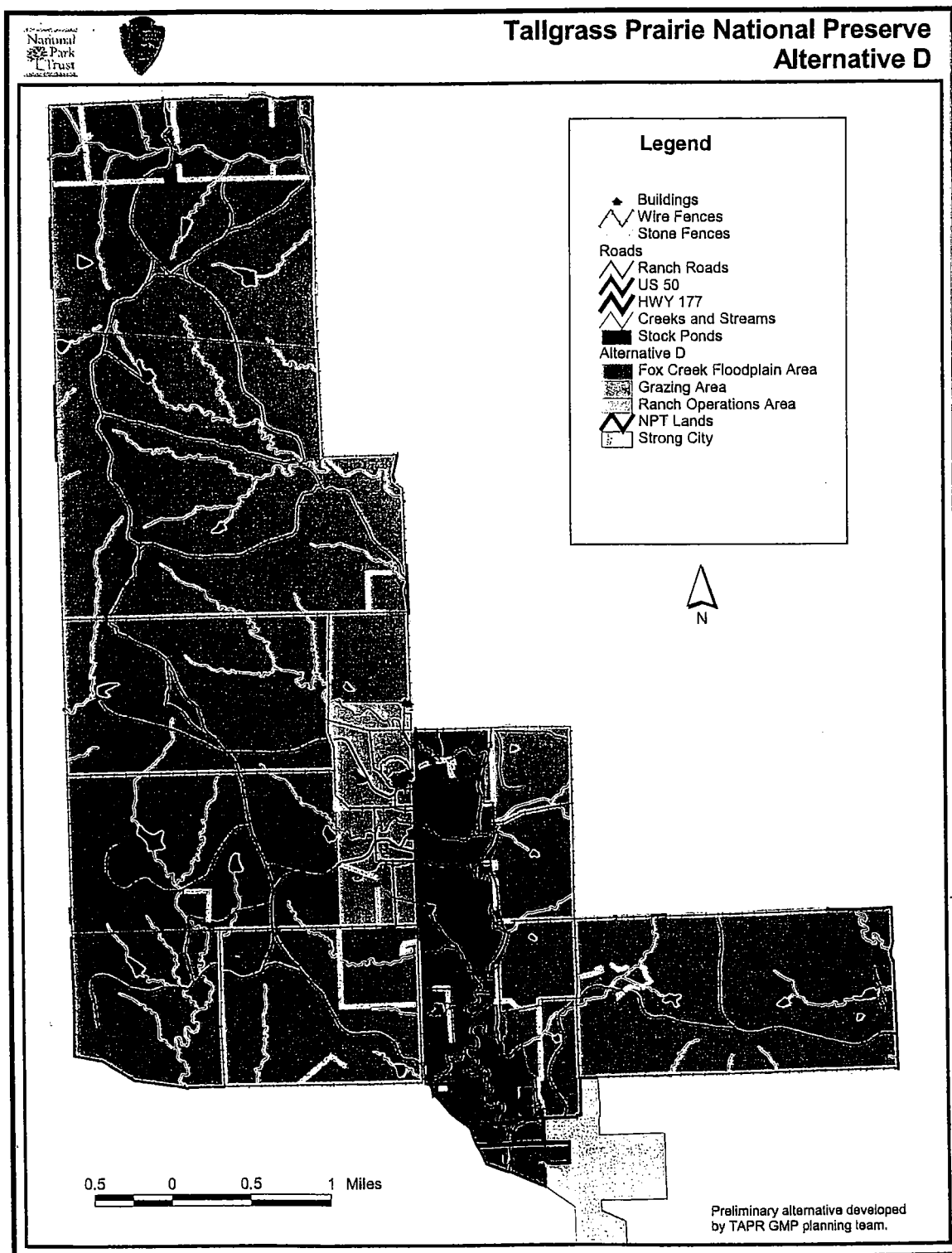


Figure 7

have the opportunity to walk through the historic structures and along the trail to Lower Fox Creek School. Visitors may stay two to three hours.

- Existing cultural resource such as the barn, stone fences, ranch house, and subsequent outbuilding would be maintained and used adaptively, to the extent possible, for ranch operations, visitor demonstrations, and visitor facilities.
- Demonstrations of ranch activities (stock use, cattle movement, etc.) would originate out of the barn.
- No modern structures would be added to this area; preservation actions and rehabilitation would be applied to the structures for health/safety reasons only.
- The ranch house would remain open for limited interpretive activities. Associated infrastructure would be upgraded, rehabilitated, and/or replaced to meet all applicable codes and guidelines with consideration to historic fabric, landscape, and adaptive use.

Fox Creek Floodplain Area

The first agricultural crops that supported ranch occupants were planted in the deep sediments of the bottomland; currently the area supports brome grass, which is used as cattle forage. This area once supported a unique complex of prairie and riparian species. A portion of the floodplain would be identified for restoration to prairie. Physical exertion in this area would be moderate with foot travel along undeveloped trails. Time commitment would be two to three hours.

- Traditional row crops would be planted to supplement cattle grazing activities and recreate the historic agricultural and ranching scene.
- Significant cultural resources would be documented and would receive preservation treatment; those along trails would be interpreted.
- A remnant of the rare floodplain prairie, which is the largest feature in this area, would be restored to provide an example of native plant species extirpated from the area. Visitors would have access to the floodplain prairie on unimproved trails with appropriate wayside exhibits.
- Limited trail access would be provided to the floodplain prairie and to significant cultural resources, with connecting routes through the Fox Creek riparian community to the area near Strong City.

ALTERNATIVE E

NOTE: to fully understand this alternative, the reader should remember that the alternative consists of those actions described below *in addition to* the actions described in the “Actions Common to all Action Alternatives” section. We also suggest the reader review the Mission Statement and the Desired Futures to ensure a clear understanding of the goals of the alternative.

In Alternative E, the primary focus of management activities would be a landscape dominated by unplowed tallgrass prairie with associated creeks, intermittent streams, springs, and seeps. In this alternative, the natural prairie would be a dynamic mosaic of successional stages resulting from the interaction of climate, fire, and grazing. Heterogeneous fire and grazing regimes would be key elements in the creation of that mosaic; actions such as varying fire times, seasons, and techniques, and introducing native ungulates as the dominant grazers would be employed to enhance prairie diversity. Visitor experiences and opportunities for access would be directed toward an understanding of what constitutes a diverse prairie and those processes that enhance prairie diversity. Traditional ranching practices would be present but would be restricted to smaller portions of the preserve. Cultural resources would be the focus of management and interpretation within the ranch headquarters area, the school area, and in traditional cattle demonstration areas.

This alternative would consist of a large native ungulate management area where limited visitor access may be imposed for visitor safety. The smaller ranching demonstration areas and cultural sites would allow for more direct visitor contact. A small agricultural area, where the cultivation of traditional crops would occur, would enhance the story of ranching history.

Cultural resources would be documented and those sites that are integral to the interpretation of the continuum of human interaction with the Flint Hills would be protected. Areas impacted by exotic species, erosion, and historic or current land use practices would be restored to reflect a more natural prairie scene (see Figure 8).

Preserve Wide

The following proposed management guidelines would apply to the entire preserve.

- Impacted sites such as springs, seeps and riparian areas would be protected and restored in order to complete missing components of the tallgrass prairie ecosystem.
- Selected stock ponds would be removed and the areas restored to prairie where feasible.
- Access would be limited and managed with no overnight camping. Recreational activities would be permitted if potential impacts to natural and cultural resources could be mitigated. No trails would be developed or maintained outside ranch headquarters area. Existing roads not necessary for site management would be rehabilitated.

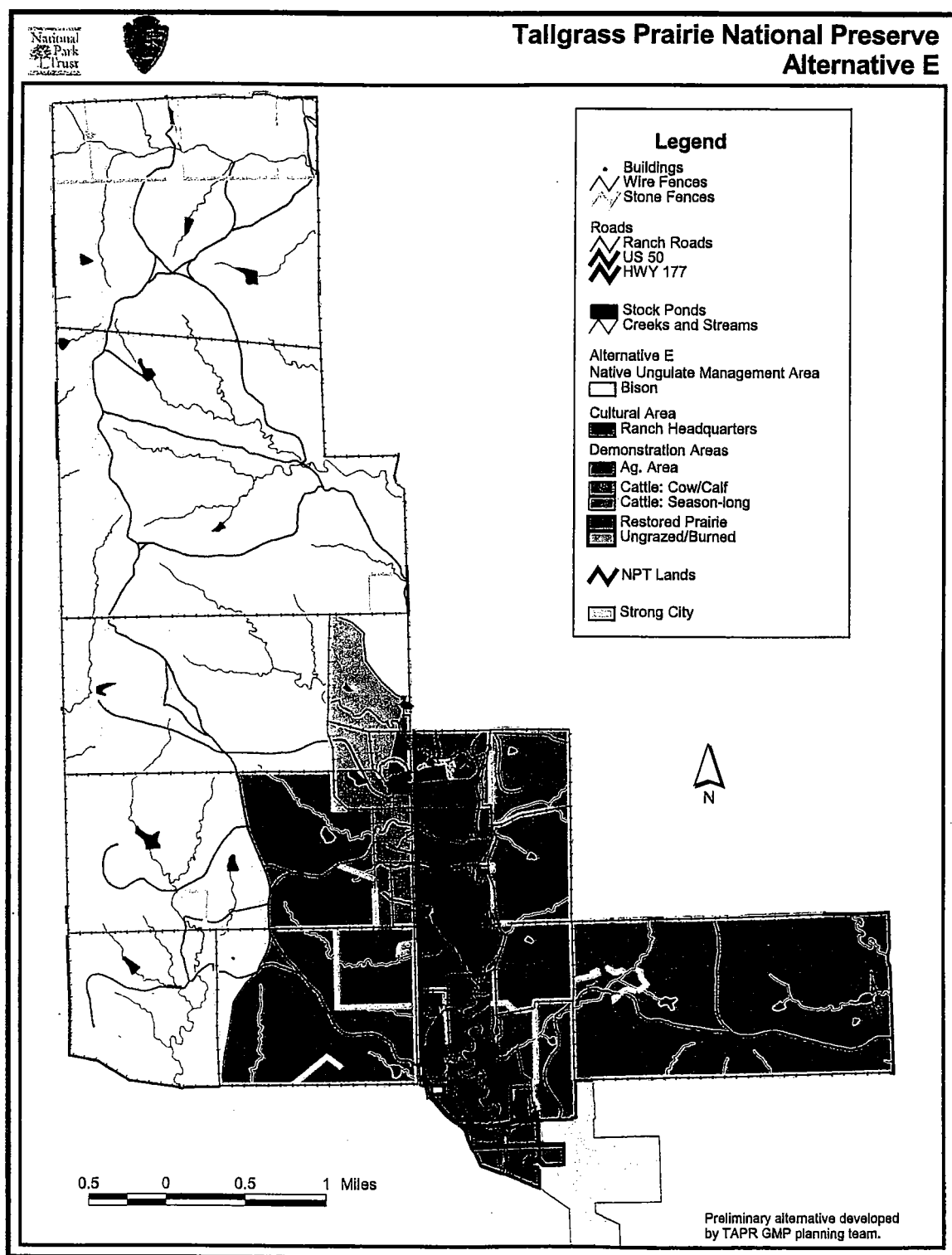


Figure 8

- A separate area to provide the main visitor services and support facilities would be developed, minimizing impacts to the cultural and natural resources of the preserve.
- Hunting would not be excluded and could serve as a management tool. Fishing would not be permitted.

Native Ungulate Management Area

This management area, consisting of most of the land area within the western half of the preserve, would contain the large native ungulates. Fire and grazing regimes would be designed to enhance the tallgrass prairie. Visitor access may be limited or restricted at times for safety reasons. Visitor experience within this area would be under more controlled conditions through ranger-led walks or the viewing of animals from outside fenced enclosures. Programs would stress the historical and present-day role of native ungulates in perpetuating the diverse prairie ecosystem.

- Native ungulates, on an ecologically sufficient land area, would be used to enhance the tallgrass prairie ecosystem. These animals would be introduced and the populations managed in such a way as to maintain effective social and behavioral interactions and dynamics.
- No exotic species would be introduced to protect the native prairie ecosystem.

Demonstration Areas

These smaller areas would provide sites for demonstrations related to prairie management and traditional land uses. They would also provide a primary focal point for interpretation of these stories. Self-guided visitor activities would visually explain the role of fire in the prairie ecosystem, and demonstrate facets of traditional ranching practices these activities would also demonstrate the use of restoration techniques to recreate missing components of the prairie such as bottomland tallgrass prairie species.

- Traditional cattle ranching practices would be used to demonstrate historic land use practices. Both season-long grazing and cow/calf operations would be present, in order to maintain activity throughout the year.
- Development to support cattle operations would be minimal.
- Cattle might be excluded from more sensitive aquatic resources to allow for physical habitat recovery.
- Areas would be provided to demonstrate alternative prairie management practices to the public.
- A crop area would be restored to depict historic agricultural land use and practices, and to help support other operations.
- Populations of native plants and animals would be protected from impacts by exotic species. Large areas dominated by potentially invasive exotic species would be converted to cultivation, hay fields, or native grass species.

Cultural Area

This area would encompass the ranch building, school, and associated structures. Cultural resources would be emphasized within this area. Visitor access would be on a day-use basis with emphasis on an understanding of the daily and annual activities of people who lived in the Flint Hills of Kansas through time.

- Cultural resources, including the historic ranch headquarters area, Lower Fox Creek School, and the best representative examples of other landscape character-defining features, would be preserved, protected, and interpreted to reveal the story of the continuum of human interaction with the landscape over time. Those buildings not integral to this story could be rehabilitated for use in preserve operations; others would be documented and allowed to deteriorate.

Development Area

This small area would contain the main visitor services and support facilities. It would be designed to provide convenient and easy access to the preserve in such a way visitors would have little need to physically exert themselves or make a long time commitment. Facilities would provide information, education, and orientation about the tallgrass prairie.

ALTERNATIVES CONSIDERED BUT REJECTED

Originally, the planning team developed six alternative management scenarios for the preserve, in addition to the “no action” alternative. They were developed as a range of possibilities, given the enabling legislation, the significance and purpose statements, and the desired futures for the preserve. However, after careful consideration, the following two options were removed from further consideration, as the team felt they did not meet the legislated mandates or the visitor experience goals for the preserve. The remaining four alternatives became the preliminary alternatives.

Alternative F – A Modern Working Ranch. Under this alternative, the preserve would have been managed as a modern working ranch. The focus would have been on allowing the visitor to experience how cattle are raised today. The historic structures would have been adaptively used and other structures, such as the present corral system, would have been updated and improved to meet modern needs. Under this alternative, the prairie would have been managed as range and to maximize beef production. Development would have been guided by the ranching activities and by the need to manage the cattle operation in a cost efficient and effective manner. Interpretation would have centered on ongoing ranch activities and current ranching practices.

This alternative would have limited visitor use and access to the prairie and to the ranch headquarters area for safety and liability reasons. With the emphasis on profitability and modern ranching, it would have been more difficult to implement varied fire and grazing regimes. Actions to protect riparian areas and seeps and streams would have affected profitability and ranch operations, making such protection more difficult to achieve. While effective range management would have occurred under this alternative, opportunities to fulfill the legislated requirements to maintain and enhance tallgrass prairie and to provide opportunities for visitors to experience tallgrass prairie would have been limited.

Rehabilitation, restoration, and maintenance of the cultural resources and visitor access to those resources would have been very limited due to safety, liability concerns, and costs. Important elements of preservation and interpretation would be missing, including many of the cultural landscape elements. Significant changes might have been necessary to make the structures and facilities usable and efficient for ranching operations. These changes could have conflicted with the needs for interpretation, historic preservation, and visitor use.

It was felt that elements of the legislation, purpose, mission, desired futures, and visitor experience goals could not have been met under this alternative, because of safety, liability, and costs. The need to provide for operational efficiencies and profits in a modern ranching operation also could not be met. However, elements of this alternative were retained in the preferred alternative. Under the preferred alternative, the visitor will have opportunities to see and experience different elements of ranching history and operations.

Alternative G – A Prairie Wilderness. Under this alternative the majority of the preserve would have been managed as a wilderness area. The focus of this alternative was the restoration of all of the natural processes and the enhancement of the prairie with the reintroduction of native ungulates, such as bison and elk, and the return to a varied fire regime. Development would have been minimal, with most of the present developments being removed. Visitor use would have been limited to non-motorized and dispersed activities. The cultural resources would have been documented with the more significant ones stabilized. The ranch headquarters area, school, and Lantry areas would have been restored to represent the evolution of ranching in the Flint Hills. Cultural landscape would have been managed to enhance the natural processes. Interpretation would have stressed the tallgrass ecosystem and the evolution of ranching in the Flint Hills, but the focus would have been on allowing the visitor to experience a wild prairie environment with natural vistas.

Alternative G placed the greatest, almost exclusive, emphasis on the natural resources. Therefore, important elements associated with the restoration, rehabilitation, and maintenance of the cultural resources, including the cultural landscapes, would have been lost through this alternative. Visitor understanding and appreciation of the history of human use of the preserve area would not have occurred with this alternative, particularly in relationship to the ranching resources. However, elements of this alternative were retained in the preferred alternative. Under the preferred alternative, the dispersed recreational opportunities and the restrictions on motorized access in the prairie landscape area would help to emphasize the “wilderness” aspects of the prairie, and would provide visitors with opportunities to experience portions of the prairie as they might have under this alternative.

SECTION 3: THE AFFECTED ENVIRONMENT

The preserve's landscape of rolling hills, unplowed prairie, tree-lined drainages, fenced pastures, cultivated bottomlands, and stone and frame structures represents the relationship between the preserve's natural and cultural resources. The chert and limestone underlying the preserve's topography, along with the climate and drainage patterns of the land, nurtured the prairie grasses and forbs, and was, as a consequence, integral to supporting animal and human life. Drawn to the land because of these rich natural resources, humans used the bounty they found here to further shape the land.

NATURAL RESOURCES

According to most authorities, the tallgrass prairie was the dominant presettlement vegetation type in the eastern third of the Great Plains occupying approximately 142.62 million acres (60 million hectares); today, only an estimated four percent remains (Samson and Knopf 1994). Now the most extensive portion of this ecosystem comprises a narrow strip within the Flint Hills region of eastern Kansas and northern Oklahoma (US Department of the Interior 1979). Preserved from the plow by a unique combination of thin, rocky soils, and perpetuated by fire, climate, and grazing, the preserve contains a nationally significant remnant of this once vast tallgrass ecosystem. The preserve is dominated by unplowed tallgrass prairie, and is rich in springs, seeps, and intermittent and perennial streams that dot the landscape.

Geology

The preserve is wholly within the Flint Hills physiographic province. The Flint Hills have been formed by the erosion of a belt of resistant limestone and softer shale and sandstone that includes 40 separate formations and measures 3,000 feet (915 meters) in total thickness (Jones 1998). The highest elevations exceed 1,600 feet (500 meters) and the lowest are 1,150 feet (350 meters) in the Cottonwood River valleys.

Climate

The climate of the Flint Hills is sub-humid, continental with large daily, monthly, and yearly variations in temperature and precipitation. The average mean annual temperature is about 55° F (13° C). Generally, temperatures range from the mid- 90s (°F) during the summer months to lows in the 30s (°F) in January (Kansas State University 1948-1996). The growing season averages more than 180 days. The Flint Hills lie in the 30-36 inch (76.9-92.3 cm) rainfall belt (Anderson 1953).

These large daily variations in temperature and precipitation can cause drastic shifts in weather patterns, resulting in safety concerns. The rapid approach of storms and other severe weather systems, with associated lightning and flash floods, are major concerns during certain months of the year. Likewise, the absence of these storms may bring

elevated temperatures and the danger of heat stress to those unfamiliar with summer conditions on the prairie.

Minerals

A 12-mile (20-km) wide uplift that extends through the preserve dominates the petroleum geology of Chase County. According to Carr, this uplift is the most important feature in both structural and stratigraphic trapping of oil and gas in Chase County. The preserve and surrounding area have a history of mineral activities (gas production) since 1929 (Carr 1998). Neither NPT (the surface landowner) nor the NPS owns or controls the current mineral interests. These were retained by Boatman's Bank (Trustee), now Bank of America, when the property was purchased by NPT. The bank reserved all oil, gas, and other minerals of any kind whether a liquid, solid, or gas hydrocarbon or non-hydrocarbon lying more than 200 feet (61 meters) below the surface, for a period of 35 years beginning June 4, 1994. The Trustee will not conduct exploration within 220 yards (201 meters) of the main house and barn, and will not engage in any commercial hard rock mining, surface mining, strip-mining, coal mining, or quarrying. The Trustee has assigned oil and gas exploration working interest to Chisholm Resources, Inc.

Presently, gas production on the preserve is from very shallow reservoirs (200-400 feet; 61-122 meters) and is of a low pressure and a low flow rate (Carr 1998). While it is generally agreed that these shallow reservoirs have additional potential, the characteristics of the gas produced may make production uneconomical (Carr 1998, National Park Service 1999). Potential production from deeper formations within the preserve would have to come from poorly defined strata and would be highly unlikely or speculative at best (Carr 1998, National Park Service 1999).

According to Carr, a total of 47 gas wells have been drilled on the preserve: 22 have been plugged and abandoned, and 25 remain shut-in, non-productive (National Park Service 1999). In addition to the shut-in gas wells, surface production equipment including well flowlines, field gathering lines, and meter runs exist on the preserve.

Associated with these operations are soil contamination, resulting in the loss of vegetation cover; actively eroding creek banks; and a lack of adequate signage and fencing to ensure resource protection (National Park Service 1999).

Soils

Several soil associations are identified within Chase County but no site specific soil survey has been completed for the preserve. Soils are derived from limestones, sandstones, and shales. The soils may be relatively deep in the bottoms of the larger stream valleys, but are typically thin on the flanks and tops of the hills themselves; bedrock exposures are visible throughout the region (Jones 1998). The soils are excessively drained, and runoff is rapid with slopes ranging from 30-50% found on the preserve (see Figure 9).

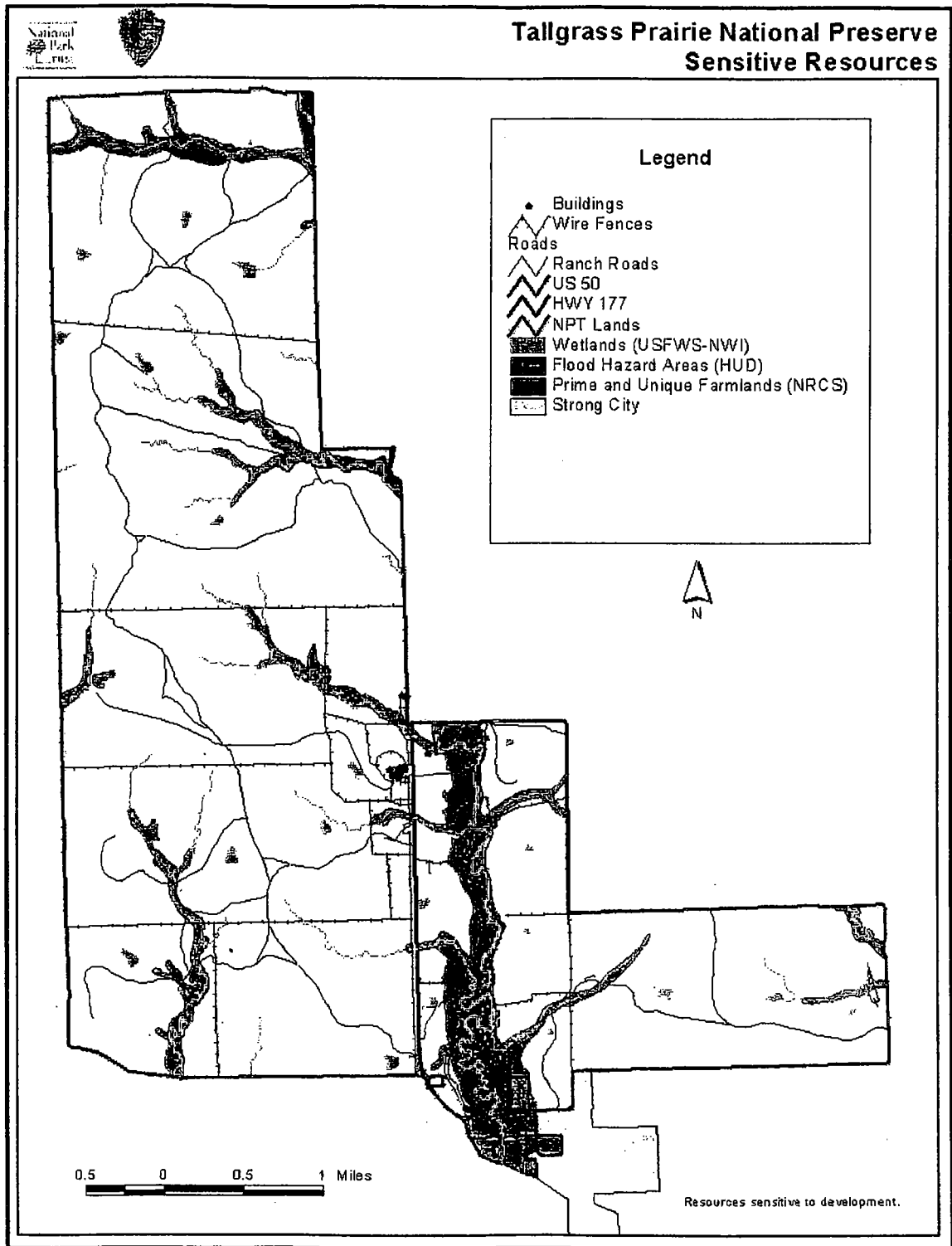


Figure 9

Prime and Unique Farmlands

Prime or unique farmlands are defined as soils particularly suited for growing general or specialty crops. Prime farmland produces general crops such as common foods, forage, fiber, and oil seed; unique farmland produces specialty crops such as fruits, vegetables, and nuts.

There are three soil units within the preserve that are considered "prime farmland" soils-- Redding, Chase, and Ivan (Broyles, 1999 personal communications). These are located in the area now planted in brome grass, and in some other areas of the preserve that historically have been under cultivation.

Vegetation

Survey notes from the 1850s describe areas of "nearly all prairie" and a "small quantity of timber on the creeks" in the region of the present day preserve (Barnard 1997). Recent attempts by Lauver (1998) to classify vegetation alliances and plant communities found eight plant community types occurring within the preserve. The preserve is dominated by the *Andropogon gerardii* (big bluestem) – *Sorghastrum nutans* (Indian grass) – *Schizachyrium scoparium* (little bluestem) Flint Hills herbaceous vegetation community, or tallgrass prairie. Prairie is found on nearly level land as well as steep slopes on uplands and on a wide array of soils. Other community types such as the Bulrush-Spikerush Marsh and Limestone outcrops are very narrow and found in small patches (Lauver 1998).

The prairie vegetation, under the current grazing lease, is burned every spring, usually around March 20th; it is grazed under a 35-year lease arrangement that began in 1995. The vegetation is subjected to an early intensive stocking regime, averaging two acres for a 550-pound steer for approximately 90-100 days between April 15th and July 31st. The cattle are then removed and the vegetation is allowed a period of regrowth until the next spring.

The floodplain forests along Fox and Palmer creeks are examples of the ash-elm-hackberry-burr oak-black walnut floodplain forest community. It is characterized by nearly level bottoms and terraces along major streams and rivers (Lauver 1998). This floodplain community has been called the rarest in the state because of the tendency, historically, to plow these deeper soils and to replace native vegetation with agricultural or grazing crops (National Park Service, 1998 Enhancement Report). The bottomland along Fox Creek is currently planted in brome grass. Cool season grasses like brome are usually grazed in the spring between March 16 and June 30 and again in the fall between about September 1 and December 31, or they are cut for hay.

The riparian forest along Fox Creek has been heavily used by livestock and shows signs of soil compaction, erosion, and loss of herbaceous species. Some row crops are planted in the southern area along Fox Creek under an annual lease arrangement with NPT. The floodplain vegetation along Palmer Creek appears to be diverse and healthy (National Park Service Water Resources Division trip report March 1997).

Dominant species, identified by the Kansas Biological Survey, are *Andropogon gerardii* (big bluestem), *Schizachyrium scoparium* (little bluestem), *Bouteloua curtipendula* (sideoats grama), *Amorpha canescens* (leadplant), *Sorghastrum nutans* (Indian grass), *Buchloe dactyloides* (buffalograss), *Vernonia baldwinii* (ironweed), *Psoralea tenuiflora* (wild alfalfa), and *Bouteloua*

hirsuta (hairy grama). The relatively high cover of buffalograss and ironweed indicates that some areas of the preserve (ridgetops and creek floodplains) are prone to overgrazing (Lauver 1998).

More than 400 species of vascular plants have been identified within the preserve as of 1999, from observational data and 11 photopoint sites (Barnard 1999). Additional vegetation data documents 46 plant species from 100 plots within 10 sampling sites from the preserve. This research noted a dramatic decline in vegetative cover between the June and August sampling periods (Thomas 1997). Presently, floral data collection continues as part of a photopoint record (Barnard 1998) and vegetation community transects have been established within the riparian zones and selected prairie sites covering 100 individual plots (Thomas 1997).

Threatened and Endangered Plant Species

No plants are included on the state threatened, endangered, or Species in Need of Conservation (SINC) list (Kansas Department of Wildlife and Parks. Strategic Plan 1991-1996). However, two plants found within Kansas, *Platanthera praeclara* (western prairie-fringed orchid) (Sheviak and Bowles) and *Asclepias meadii* (Meades milkweed) (Torrey ex A. Gray), are on the federal list of threatened species. Neither of these are known to be within the preserve; surveys for other species have been limited or non-existent.

Ecologically Critical Areas or Unique Natural Resources

The tallgrass prairie is the dominant vegetation community within the preserve and constitutes a unique resource on a national and global scale. This habitat is also listed as state prime habitat (Kansas Department of Wildlife and Parks. Strategic Plan 1991-1996).

The many springs and seeps within the preserve, having associated free-flowing, intermittent, or perennial streams, are prime habitat within the state and considered crucial habitat "wherever they occur" (Kansas Department of Wildlife and Parks. Strategic Plan 1991-1996). Two perennial streams within the preserve form the habitat for the federally-listed endangered species, the *Notropis topeka* (Topeka shiner).

Exotic Plant Species

Over 30 plant species classified as "non-native" within the state have been found within the preserve. Many of these plant species do not constitute a serious threat to the resource, including *Lamium amplexicaule* (L.) (henbit), *Poa pratensis* (L.) (Kentucky bluegrass), and *Stellaria media* (L.) (cyrillo) (common chickweed). Other species, such as some members of the *Bromus* group or sweet clovers, are only of concern to severely impacted or overgrazed prairies.

Andropogon Bladii (Caucasian bluestem) represents a serious threat and has been found within the preserve. Control of this species is difficult because it responds positively to fire and is not impacted by mowing or normal grazing regimes. It has been found on the preserve in three sites, the largest, approximately one acre (0.4 hectares) in size. Dr. Clenton Owensby, Professor in the Department of Agronomy at Kansas State University (KSU), stated that he fears Caucasian bluestem more than any other exotic (Clubine 1992).

Special attention should be given to state-listed noxious weeds and especially to potential problem species such as *Lespedeza cuneata* (sericea lespedeza). While not found within the preserve, this species "may pose a serious threat to the biotic integrity and biodiversity of Flint Hills tallgrass prairie in the next decades" (National Park Service 1998 Enhancement Report).

Water Resources

Streams and Creeks

The major aquatic resources within the preserve consist of Palmer Creek, a tributary to Fox Creek, located in the northern portion of the preserve and flowing west to east; and Fox Creek, a major tributary to the Cottonwood River, which bisects the preserve flowing north to south. Floodplains for these stream reaches have been digitized and mapped from the Federal Emergency Management Agencies Flood Insurance Rate Maps. Additional unnamed tributaries discharge into the Fox Creek.

In 1998, the Kansas Department of Health and Environment initiated a monitoring program for Fox and Palmer creeks involving one fixed site on both. The sampling includes pH, temperature, dissolved oxygen, biological oxygen demand, nutrients, organics, heavy metals, bacteria, and some invertebrate samples. Prior to this program, no formal sampling procedure had been implemented, therefore routine water quality data is lacking.

The initial sampling in July 1998, showed extremely high fecal coliform and fecal streptococcus counts in both Fox and Palmer creeks. The counts from the August sampling were greatly reduced. (Kansas Health & Environment Laboratory 1998). The July samples exceeded the state water quality standard coliform count for whole body contact of 200/100 ml and also the state standard for non-contact, which is 2000/100ml. The high fecal counts may be the result of non-point source pollution due to runoff from heavily grazed pastures (Department of Health and Environment Kansas Water Quality assessment 1996).

Some earlier water quality data for Fox Creek is associated with fisheries sampling efforts. Fox Creek was given a high score for habitat for aquatic macroinvertebrates. Ninety-seven individual insect species and 23 species of fish were collected. However, Fox Creek was rated as 'poor' in stream health, mainly due to an increase in species tolerant to pollution and a decrease in intolerant species (Kansas Department of Wildlife and Parks 1995).

A recent follow-up evaluation was performed on three preserve aquatic resources using a Bureau of Land Management technique for assessing riparian areas. This technique evaluates 17 factors including hydrology, vegetation, and stream geomorphology, and results in a finding in one of three categories: functioning, functional-at-risk, or nonfunctioning. Palmer Creek was assessed in two locations: a west portion and an east portion close to Fox Creek. The west segment was judged functioning, despite some concerns over the lack of woody species. The eastern portion exhibited degraded conditions due to erosion and was labeled nonfunctioning. An unnamed tributary to Fox Creek was labeled functional-at-risk due to incising at its lower end. The other condition assessments for this area were notable for their excellence (National Park Service Water Quality Division, trip report October 1997).

Wetlands

Wetlands are an imperiled national resource, with a loss rate of 300,000 – 450,000 acres (121,114-181,671 hectares) annually on a national scale (Feierabend and Zelzany, 1987). Wetlands help convert plant material into nutrients; they function in flood and erosion control; and they improve water quality. The NPS strives for a "no-net-loss" of wetlands in any management action affecting those resources. Because of the lack of site-specific information regarding wetlands within the preserve, the NPT, through the Natural Resource Conservation Service (NRCS) has initiated a wetlands survey. This survey and subsequent

NPS planning, management, and protection actions will be in compliance with Director's Order and Procedural Manual #77-1: Wetlands Protection.

Current information regarding wetlands has been derived from the U.S. Fish and Wildlife Service's National Wetlands Inventory (NWI). The Housing and Urban Development (HUD) flood hazard maps provide some information on some type of floodplain delineation. The state of Kansas reports all state and federal areas containing wetlands, but does not include the majority of wetlands on private lands. Wetlands within the state are currently classified as "waters of the state," and are designated for noncontact recreation, food procurement, and aquatic life support. There is no estimate of wetland losses within the state as of 1996, according to the Kansas Water Quality Assessment Report (Kansas Department of Health and Environment 1996).

Stock Ponds, Seeps, Springs

Additional water resources include numerous seeps and springs; 26 ponds constructed for stock use, including Peyton Creek Detention Dam No.104, a 200-acre-ft watershed retention impoundment constructed under Permit No. DCS-0142 and operated by Peyton Creek Watershed District 71; and several tributaries with variable flows. The stock ponds serve as water sources for cattle and as retention ponds for surface water runoff during storm events.

The presence of a federally-listed species, *Notropis topeka* (Topeka shiner), in a tributary downstream from a pond has created concerns over the possibility of dam failure and the introduction of fish species from the pond which might impact that endangered species. However, the preserve lacks any water quality or biological data on species present within these ponds except for a survey for potential recreational fishery within ten ponds conducted by the Kansas Department of Wildlife and Parks (Kansas Dept. of Wildlife and Parks. 1996. Report: Ponds on the Z-Bar Ranch). A recent inventory of the 26 dams provided physical data regarding the ponds, dimensions, and maximum capacity. While all were classified as having a "low" hazard potential, a number of dams were identified as being in need of corrective work to assure structural soundness (Rizzo 1998).

The preserve lacks long-term data sets on water quality, hydrology, and geomorphology.

Wildlife

Mammals

Little is known about the mammal species within or transient to the preserve. Approximately 120 mammal species, including transient and exotic, occur within the state (Kansas Department of Wildlife and Parks Strategic Plan 1991-1996). Some adjunct data does exist for the area of the preserve with a total of 59 species of mammals reported by Moore in 1990 for Chase, Lyon, and Morris counties. The list was compiled from references dating from 1958, 1981, and 1985, and provides general information for mammals that might be sighted within the preserve.

Large mammal species, such as *Odocoileus hemionus hemionus* (mule deer), *Odocoileus virginianus* (white-tailed deer), and *Antilocapra americana* (antelope) have been observed within the area of the preserve. *Bison bison* (bison) were "abundant" in all counties in the state when the first European settlers arrived. They were gone from the Flint Hills area by the

early 1870s; the last reported sightings in the state were in 1898 (Choate 1987). The report by Moore also contains four species that have historical sightings but are no longer found: *Ursus americanus* (black bear), *Ursus horribilis* (grizzly bear), *Felis concolor* (mountain lion), and *Cervus canadensis* (elk).

Little is known regarding small mammals within the preserve. Restoration of some non-huntable species such as the *Lutra canadensis* (Schreber) (river otter) took place in the Cottonwood River during the 1970s (Sorenson, 1998, personal communication).

Birds

Bird species information compiled by the Kansas Ornithological Society documents 428 species of birds known to occur within the state. The NPS entered into a three-year grassland bird study with the U.S. Geological Survey, Biological Resources Division, which involved eight parks, including the preserve. The field work for the preserve study, a baseline bird survey, was completed in August 1999 with the final report identifying 132 bird species with 15 of those being specifically grassland associated species. The report recommends burning prior to breeding season or in the fall and burning on a 2- to 5-year rotation with variable frequency and seasonality.

The Kansas Coordinator for Partners in Flight Program has voiced concerns regarding species in decline, such as the *Tympanuchus cupido* (L.) (greater prairie chicken). Studies of grassland bird reproduction and land management treatments from Konza and northeastern Oklahoma have shown that spring burning followed by grazing (especially early intensive stocking) resulted in reproduction levels below replacement rates (Kansas Biological Survey, personal communication, 1998).

Reptiles and Amphibians

Twenty-eight species of amphibians (8 salamanders, and 20 frogs and toads) and 53 species of reptiles (4 turtles, 12 lizards, and 37 snakes) are found in the state (Kansas Department of Wildlife and Parks Strategic Plan 1996). Twenty-one species, including both amphibians and reptiles, are found at the preserve (Kansas Herpetological Society 1997). However, these were identified in a cursory look, conducted by largely untrained volunteers, over a two-day period.

Fisheries

Twenty-four species of fish were identified in Fox Creek during a 1995 sampling effort (Kansas Department of Wildlife and Parks 1996). Concern was voiced at that time over the presence of *Micropterus salmoides* (Lacepede) (largemouth bass) and the absence of *Micropterus punctulatus* (Rafinesque) (spotted bass), indicating negative changes in the native fish fauna. Another sampling of Fox Creek in 1996 identified species that indicate a disturbed or unsettled community. The large number of stock ponds is thought to contribute to this imbalance, as species are released from ponds during flood events (Tillma 1996).

Additional sampling by the Kansas Department of Wildlife and Parks within Palmer Creek and two unnamed tributaries found 14 species of fish, including the Topeka shiner and the *Luxilis cardinalis* (cardinal shiner). The Topeka shiner, found in two of the unnamed tributaries, is federally listed as an endangered species under the authority of the Endangered Species Act of 1973 (Final Rule signed 11/25/98); and the cardinal shiner is a State SINC species. *Pimephales promelas* (Rafinesque) (fathead minnow), found in large numbers in

ponds, were also located in the tributary headwaters, implicating the ponds in affecting the natural fishery (Kansas Department of Wildlife and Parks 1997).

When the Kansas Department of Health and Environment began monitoring Fox Creek, initial sampling found five species of unionid mussel, including the exotic *Corbicula fluminea* (Asiatic clam) (Medland 1997, personal communication).

Threatened, and Endangered Species

The Topeka shiner is federally-listed as an endangered species under the authority of the Endangered Species Act of 1973 (Final Rule signed 11/25/98).

The federally-listed threatened *Haliaeetus leucocephalus* (bald eagle) may also occasionally occur on the preserve.

The federally-endangered *Noturus placidus* (Neosho madtom) is suspected of being in the Cottonwood River of which Fox Creek is a tributary (National Park Service "Enhancement Report" 1998); however, it has not been found at the preserve.

The Kansas Natural Heritage inventory monitors some 130 species of vertebrates and invertebrates and some 400 species of plants in Kansas. The cardinal shiner is a State SINC species. As noted above, the Topeka shiner has been found in two unnamed tributaries within the preserve. No other occurrences are documented from within the preserve, although no formal surveys have been conducted for many of these species (Busby 1997, personal communication).

All aquatic areas are recognized as "hot spots" and should be sampled for invertebrates and mussels. Springs and seeps are considered as sites with high potential for biodiversity on the prairie, according to recent findings on the Konza Prairie. About 28% of the vascular plant species at Konza are found associated with these areas. Similar findings may also be true for aquatic invertebrates (National Park Service "Enhancement Report" 1998). It is thought to be highly unlikely that rare or endemic terrestrial plant or animal species will be discovered at the preserve.

Air Quality

The Clean Air Act, P.L.88-206 as amended, designates units of federally-owned lands into different categories of air quality. According to specialists within the National Park Service Air Quality Division, the preserve, if federally owned, would fall in the Class II category and all applicable state air quality regulations would apply. (Flores, NPS Air Quality Division 1999, personal communication).

Site specific air quality data for the preserve is lacking, but overall, the air quality for the area is presumed to be good (Weir, 1997 personal communication, Kansas Department of Health and Environment). Particulate data, from the 1970s, exists for an Emporia station (approximately 18 miles (30 kilometers) east of the preserve). All of the current air quality data comes from a Wichita station; no data is currently being collected from Chase County or the preserve area. Analysis of lead, carbon monoxide, and sulfur dioxide levels revealed no problems that would impact the preserve. The only exceptional events with particulate matter less than 10 microns (PM-10) were due to dry, dusty conditions (Wier 1997, personal communication).

Fire Management

The historic role of fire in the prairie ecosystem is well documented in the literature (Bragg 1995, Collins and Barber 1985, Hartnett et al. 1996). Fire that is highly variable in both frequency and seasonality is essential for the maintenance of a functioning prairie ecosystem. It is this variability that encourages the greatest expression of biological diversity.

Fire also plays an important role in the management of Flint Hills prairies as pastures. Since most of the leased pastures throughout the Flint Hills are lightly stocked in the latter months of the growing season, vegetation remains into the fall resulting in a large accumulation of biomass during the winter. Since it is difficult to control the spread of wildfires in grassland ecosystems and commercial grazing sets the pattern for the entire region, annual controlled spring burning is widely practiced.

Viewsheds (Landscapes and Vistas)

Repeatedly, the public has identified the vistas and views as some of the preserve's most important resources. The relationship of earth and sky, the feeling of vastness, and the openness of the landscape all contribute to a "sense of place." There are very few intrusions on the land.

Several vistas are noteworthy within the preserve as representative of the larger, nearly undeveloped and sparsely populated Flint Hills region. From U.S. 50 north on State Hwy 177 the preserve flanks the highway on both sides, providing a pastoral scene and appealing landscape. The historic ranch headquarters area represents the only large human-constructed element visible, resulting in a broad vista of the verdant valley.

To the east of Hwy 177, from the front porch of the main ranch house, lies another broad vista of the distant gallery floodplain forest backed by the escarpment of rolling hills. Again, this view contains few human intrusions except for the cultivated brome field and a few barely visible fence lines.

To the west of Hwy 177, the tallgrass prairie rises to the main north-south ridge system that defines the preserve's more remote sections. Only a few trees are visible in the draws where water is more plentiful and the effects of fire are less active. This rounded landscape beckons one to come and examine it more closely.

Perhaps the most spectacular vistas within the preserve are atop the long north/south ridge system. From these vantage points, a person can see great distances in all directions. With the exception of the development associated with Strong City, few human structures are visible from these lookout points. Communication towers are located southeast and southwest of the preserve and can be seen from some areas within the preserve. Depending on the season, a rolling sea of green or brown expands to the horizon. Here, people have an opportunity to ponder the past and reflect on the vastness that American Indians and early Euroamerican settlers encountered.

Night is a special time to experience the preserve and its vast expanse of sky. Although lights from events in Strong City are visible, on most clear nights the sky appears as a giant dome of black, studded with stars, unaffected by city lights.

These relatively undisturbed viewsheds offer visitors a unique opportunity to experience a large expanse of prairie unaltered by modern intrusions.

Grazing

Grazers inhabiting the tallgrass prairie prior to European settlement included bison, elk, pronghorn antelope, white-tailed deer, mule deer, numerous species of small rodents, and invertebrate species. The extent to which large grazers used the prairie is unclear (Roe 1970). The Flint Hills have been used intensively for cattle grazing since the early 1880s.

Cattle grazing regimes take several forms within the Flint Hills, including year-long cow-calf operations, May-to-October steer grazing operations, and intensive early stocking. The latter operation places twice the number of animals on the land for one-half the time. Cattle are usually brought on in late April and removed by late July to allow for recovery of the prairie. One criticism of this regime concerns its homogeneity and the indication that intensive early stocking promotes a lack of diversity when used as the sole management strategy, though there is no compelling evidence against intensive early stocking as one component of land management (Hartnett, personal correspondence July 14, 1998).

However, declining populations of some avian species such as the greater prairie chicken are in part due to the practice of annual spring burning and early intensive stocking, which reduces vegetative cover during the nesting season (Kansas Biological Survey personal communication 1998). Early work by Weaver also questioned the role of heavy grazing of tallgrass prairie, and suggested that it resulted in degraded range with low diversity (Weaver 1954).

Research is underway regarding whether bison and cattle grazing may differ in their effects on tallgrass prairie vegetation composition and biodiversity. Although both cattle and bison display generalist food habits, bison select almost exclusively grasses and may reduce the dominance of matrix grasses. Other behaviors, such as wallowing and the bison's tendency to graze closer to the ground, may cause bison to differ from cattle in their effects on species richness and grassland biodiversity (Hartnett 1996).

Large herbivores alter the abundance of various plant species through the selective removal of preferred forage species. Bison diets consist of up to 90 percent grasses, while cattle diets consist of about 70 percent grasses (Plumb 1993). Selective grazing of grasses releases forbs from competition pressure and increases plant species diversity (Collins 1987).

Recently burned areas are often preferentially grazed by cattle or bison or both (Shaw and Carter 1990). Large grazers can trample vegetation (Wallace 1987) and engage in wallowing, the impacts of which may persist for decades. Other groups of small herbivores, such as *Geomys bursarius* (Shaw) (pocket gophers), provide establishment sites for plant species uncommon in undisturbed prairie (Platt 1975), thus increasing diversity.

CULTURAL RESOURCES

Archeological Resources

Archeological investigations at the preserve have been limited. Prior to its establishment, only two prehistoric archeological sites had been formally identified within the preserve. The NPS Midwest Archeological Center conducted limited fieldwork in 1998, representing the preserve's first formal archeological investigations. Twelve prehistoric and historic sites were documented, confirming and verifying some of the finds previously discovered in the field or through archival research. The sites are scattered across the preserve, and include lithic scatters, a quarry/workshop site, cairns, early Euroamerican farmsteads, the Spring Hill Ranch headquarters area, an historic dump site, and the Lower Fox Creek School area. Isolated chipped stone implements have been found at several locations, and these will continue to be discovered. Many will relate to specific activity areas that are themselves associated with other sites, including camps or habitation sites.

The potential is high for the identification of sizeable numbers of prehistoric and historic sites and features within the area of the preserve, based on the density of sites documented in Chase and adjoining Morris counties. Prehistoric sites and features will likely range from probable kill sites to quarries, workshops, single and multiple component habitation or campsites, possible burial mounds, cairns, rock alignments, and tipi rings. Historic Euroamerican sites and features will likely include homestead/farmstead sites, dump sites, remnant plantings, fence lines, roads, and water control devices. Distribution will also vary across the preserve, in both the valley bottoms and stream terraces, and the upland areas (Jones 1999: 52-59).

Ethnographic Resources

Collection of information about the park's ethnographic resources is ongoing. The area of the Flint Hills has been affiliated with numerous American Indian peoples including the Kaw, Pawnee, Wichita and Osage, and local communities. Ongoing consultation with these groups will assist in identifying and protecting important ethnographic resources. Such resources may be sites, structures, objects, landscapes or landscape features. Some documented archeological sites have ethnographic value and importance. Natural resources may also be identified as ethnographic resources, if they have legendary or religious significance, or traditional subsistence value to a group.

An Ethnographic Overview and Assessment is required for the preserve. The report will summarize the ethnography of pre-contact, post-contact, and contemporary groups represented in the preserve. The report will include a discussion of the groups' uses, perceptions, and occupation of the land, and cultural values associated with the natural and cultural resources. In addition to American Indian groups, traditionally-associated groups include local communities.

An Ethnobotany Report is underway. This report provides a comprehensive plant list that itemizes all plants used by American Indian tribes in the United States, and plant uses by those tribes. To date, over 200 ethnographic resources have been identified. Four are ethnographic landscapes, one for each of the four culturally affiliated tribes. There are 201 plant species currently listed in the Ethnobotany Report, nearly all of which are associated with American Indian uses.

No sacred sites or Indian Trust resources have been identified to date. In the event that future research and consultation identifies such resources at the preserve, all compliance requirements, consultation, and NPS policies will be followed.

Structures

The preserve contains over 60 known structures and features (see Figure 10), and it is expected that as additional survey work is accomplished, more will be discovered. These resources document the evolution of farming, ranching, and rural lifeways on the property from the mid-19th to mid-20th centuries. Of the 60 known structures and features, 38 were documented as part of the List of Classified Structures (LCS) survey in 1997. The majority of these are concentrated at the Spring Hill Ranch headquarters, including a Second Empire house, a three-story barn, a springhouse/smokehouse, outhouse, icehouse, and a poultry house/scratch house. All of these are built of local limestone. There is also a stone schoolhouse, the Lower Fox Creek School, 1/2 mile to the north, and 36 miles (60 kilometers) of stone fence. Following completion of the HRS, the LCS will be updated and finalized.

The entire preserve property was listed as a National Historic Landmark (NHL) in 1997 for its association with the cattlemen's empire of the late 19th century and its association with the transition from the open range to the enclosed holdings of the large cattle companies in the 1880s. The period of national significance extends from the first purchases of lands by Stephen Jones in 1878 through 1904, when the ranch lands began to be sold off by Bernard "Barney" Lantry's sons. Eight buildings and four structures have been identified as contributing to the property's national significance. Vehicular traffic in the form of visitor parking, tour buses and stock trucks may come into direct contact with some of the resources, or cause heavy vibrations that may contribute to the collapse of fragile or deteriorated elements such as stone walls or stone bridges. Structures no longer actively in use at other locations across the preserve, such as stone walls and ruins, suffer from deterioration and possible impact from grazers. Range fires could also impact historic remains that include wood elements, such as the corrals.

Cultural Landscapes

Two sites within the preserve are identified as contributing sites to the 1997 NHL designation: the garden terraces in front of the ranch house and the extensive ranch lands. There are five retaining walls forming terraces between the house and Highway 177, which runs north/south through the NHL. The terraces are built of local limestone in various masonry techniques, including dry-laid rubble, roughly squared rubble, and coursed ashlar with quarry face. The upper terrace contains a circular stone base for a fountain. The ranch lands include landscape features consisting of vast expanses of native prairie rangelands with intermittent corridors of woodlands along streams and drainage ways. The preserve's ranching and agricultural history can be seen in the relationship of pastures and former cultivated areas defined by stone fencelines, domestic spaces with historic plantings, remnants of hedgerows, and roads.

The NPS Midwest Regional Office has initiated a cultural landscapes inventory (CLI) at the preserve that should be completed in 2000. In addition to survey work at the school and ranch

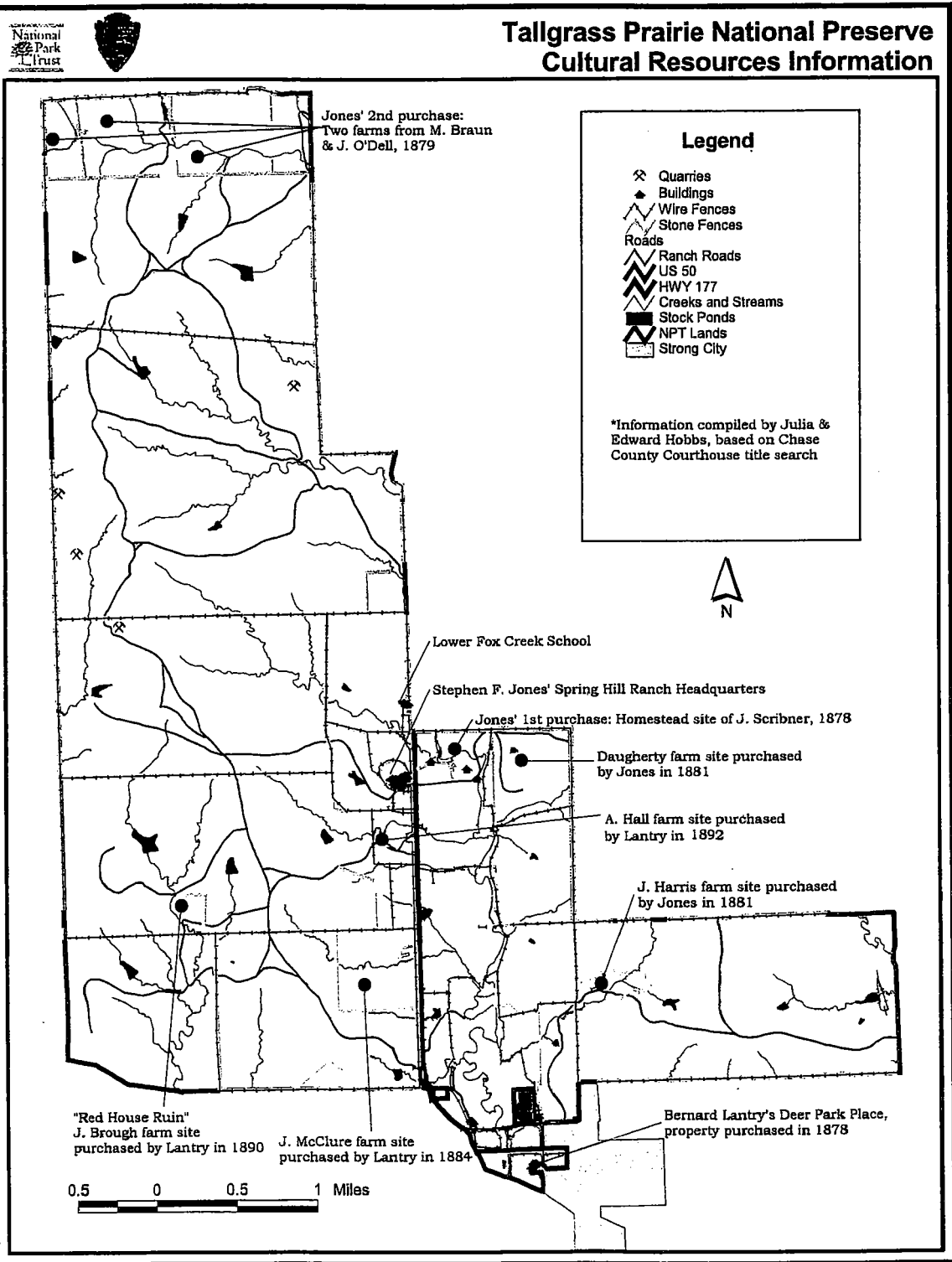


Figure 10

headquarters area, basic information was collected at the Red House ruin site, several mid-19th century occupation sites, quarry sites, stone fencelines, and at water features. The ranch headquarters area includes plantings of mature walnut and juniper trees. The habitation sites show evidence of human occupation such as Osage orange hedgerows, stone fence enclosures, and surface depressions.

Museum Collections

Both the NPS and the NPT have acquired cultural resource collections. At this time NPS-owned museum collections include archival and historic collections. The potential exists to develop an ethnographic collection; however, to date there are no known extant materials. Natural history specimens have been collected from the preserve by researchers at local universities such as Kansas State University and Emporia State University.

An Interim Scope of Collections Statement (SOCS) has been completed, and defines the use and scope of museum collections that contribute directly to the mission of the preserve. It also provides guidance on future acquisitions in order to prevent arbitrary growth of the collection. The NPT will assist in acquiring objects, archival materials, and visual materials, as defined in the SOCS.

The NPS and NPT hold joint stewardship of the collections. Presently, collections owned by both the NPS and the NPT are located in various places. NPT-owned collections are exhibited in the Spring Hill Ranch house, the barn, the smokehouse, and are stored in offices at the Midwest Archeological Center in Lincoln, Nebraska.. Collections owned by the NPS are stored at the preserve headquarters and temporarily at the Midwest Regional Office in Omaha, Nebraska.

SOCIOECONOMIC ENVIRONMENT

The components of the socioeconomic environment include land use patterns and planning, demographic trends, the general economy (primary economic sectors, employment, and income levels), and visitor services. The region is defined as Chase, Morris, and Lyon counties in east central Kansas (see Figure 11). All of the following information is taken from "Descriptive Report of the Socioeconomic Environment, Tallgrass Prairie National Preserve," written by Northwest Economic Associates, 1998.

Regional Land Use

The combined land area of the three counties totals nearly 1.5 million acres (605,561 hectares). The area is comprised primarily of grassland (74%) and cropland (22%). Woodland covers a small portion of the land area (3%). The remainder is made up of water bodies (<1%) and residential, commercial, industrial, urban, and other land types (<1% combined).

The three counties are similar in size, and grassland and cropland dominate all three counties. However, Chase County has a greater percent of its area in grassland than Lyon or Morris counties. The rocky Flint Hills make up most of Chase County, so a relatively small portion of its landbase is suitable for crop production. The remainder of Chase County is comprised of cropland (9%), woodland (4%), water (<1%), and other types of land.

The largest of the three counties, Lyon County, is the most developed. Nearly 89% of the total commercial/industrial area in the region is found in Lyon County. Nevertheless, only a little more than 1% of Lyon County land is in residential, commercial, industrial, or urban use.

For the most part, there are very few county- or city-level zoning or land use controls in the region. Chase and Morris counties have no county-level zoning ordinances. All unincorporated land in these counties is classified as agricultural. All counties have some land use controls aimed at maintaining sanitation codes with respect to water quality.

Strong City limits the location of trailer parks and prevents further housing development within the Cottonwood River floodplain. The cities of Cottonwood Falls and Strong City have been zoned as single-family residential, multiple-family residential, or commercial/industrial.

Land use in the region has been, and is expected to be in the foreseeable future, primarily agricultural. From 1987 to 1992, the amount of land classified as grassland or cropland in the region increased. Over the next few years, with the exception of Emporia in Lyon County, the distribution and amount of non-agricultural land in residential, commercial, industrial, and other uses is expected to remain roughly the same. An increasing number of small manufacturing firms have recently located in Emporia; these will require more commercial support services and residential facilities. A new manufacturing plant in Chase County (Cottonwood Falls) opened in 1999, but will not alter existing land use in the county.

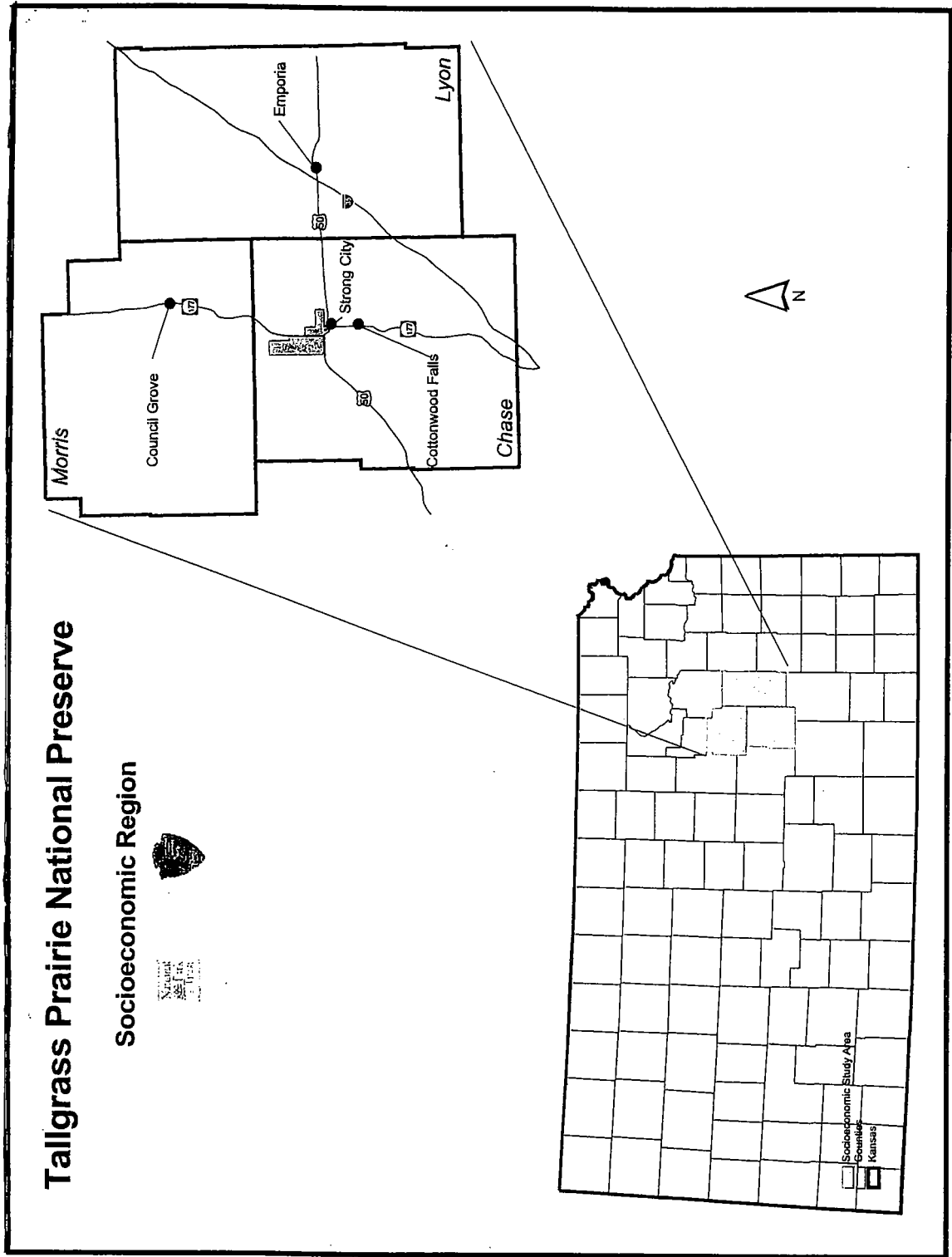


Figure 11

Demographic Characteristics

Overall, the total population of the three counties has declined steadily over the past 10 to 15 years. Population for the state of Kansas, however, has been on the increase. Between 1990 and 1997, the state population increased by about 5%, but population in the region declined by almost 2% (43,920 to 43,175). Each of the individual counties experienced a decline in population between 1990 and 1997; most of these changes took place between 1995 and 1997.

The majority of people reside in Lyon County, which also contains the region's largest city, Emporia.

The population in the entire region has remained fairly evenly split between males and females over the 1990 to 1997 period. Each of the three counties has shown a similar gender mix throughout the same time period. The population also remained predominantly white during that period. However, since 1993, the number of whites living in the project region has decreased, while the population of other groups, in particular Asian and Pacific Islander, has increased.

Chase and Morris counties have a low percentage of minority populations and these numbers remained fairly constant through 1997. However, in Lyon County, during the last 5 to 10 years, the population of Hispanics, Asians, and Pacific Islanders has increased. The majority (98%) of Asians and Pacific Islanders that live within the region reside within Lyon County. Lyon County also has received the most in-migration of Asians and Pacific Islanders of the three counties, experiencing an increase of about 25% in this group between 1990 and 1997. Also, the Hispanic population of the region nearly doubled between 1980 and 1997, reflecting a similar statewide trend. Most of the region's Hispanic population live and work in Lyon County.

A major issue in the region is the overall aging of the population. Similar to statewide trends, a large percent of the population is over the age of 45. The middle age group, 25-44 year olds, has become smaller over the last few years. Senior citizens make up a high percentage of the population.

The education level of people 25 years and over for the region is similar to that of the state of Kansas as a whole. Lyon County has a greater share of individuals with graduate or professional degrees than the other two counties, most likely due to the presence of Emporia State University, Flint Hills Technical College, and a greater number of technical and support businesses.

Most cities have experienced a decline in population. However, unincorporated areas within Lyon and Morris counties have actually increased in population since 1990, which seems to mirror the state's demographic trend.

Emporia is the largest city in the region, with a population of nearly 25,000 people. Next in size is Council Grove, in Morris County, with a much smaller (and fairly constant) population of fewer than 2,300 people. The largest towns in the immediate vicinity of the preserve are Cottonwood Falls, with a population of 850, and Strong City, with a population of 600. Both towns are in Chase County and both experienced a small decline in population between 1990 and 1996.

The decline in the overall population level of the region may be attributed to two inter-related factors. First, fewer persons are involved in agriculture, and reduced opportunities have caused agricultural workers to leave the area. Second, greater numbers of young people are going to college elsewhere or seeking higher paying jobs in larger urban areas such as Kansas City or Wichita.

General Economy of the Area

Although agriculture is not the largest sector in the region in terms of percent of earnings, most of the land base in the region remains devoted to agriculture. Economic conditions of farming and ranching are relevant to the development of the GMP and require special consideration.

Livestock sales from ranching represent the largest component of agricultural income. Agricultural earnings in the region have fluctuated over the past decade and, with low beef prices the past several years, are not expected to increase substantially in the near future. Agricultural employment decreased by about 4% during the period 1990 to 1996. However, agricultural support services increased, both in number of establishments and employment, over the same time period.

Land devoted to agriculture has remained relatively constant during the past decade, but the number of landowners has decreased and farm size has increased over the same time period. This reflects a regional (as well as national) trend towards consolidation of land into larger holdings. An additional trend is away from owner-operated farms and ranches and towards investor- or absentee-owned land that is managed by local operators.

Despite the decreasing number of small crop farming and ranching operations, small businesses dominate the region's economy. In 1995, 98% of all businesses in the project region had less than 100 employees. Between 1990 and 1995, 80 new establishments were created in the region, an increase of about 8%. The majority of this increase was in businesses employing fewer than 20 people. However, the number of establishments employing between 100 and 499 employees nearly doubled (from 9 to 16) during the same time period.

Between 1980 and 1995, the largest growth in the region, in terms of earning, has taken place in the retail trade, services, and manufacturing sectors. The importance of manufacturing is illustrated by the fact that between 1980 and 1996, the sector accounted for about 30% of all earnings in the region.

In terms of earnings by industry, non-farm earnings have been substantially higher than farm earnings (\$518.3 million non-farm versus \$8.1 million farm in 1996). From 1980 to 1996, farm earnings have been quite variable. Non-farm earnings over the same time period increased by about 92%, from \$269.7 to \$518.3 million. This indicates that, as a whole, the region has benefited from a healthy rate of economic growth.

The growth in earnings described above is reflected in the employment figures of the same time period. Although farm employment decreased by 17% during the 1980 to 1996 period, non-farm employment increased by 25%. The industrial sectors employing the most persons in 1996 included services, manufacturing, state and local government, and retail trade.

Some persons have started to invest in the renovation of older buildings and the opening of restaurants and shops in Cottonwood Falls and Strong City. The future of Cottonwood Falls may be partially tied to developing tourism and encouraging "niche" stores to become established. The situation in Morris County is somewhat different. While the county's economy is primarily based on agriculture, the county and the city of Council Grove have more diversified economies, with increasing emphasis on tourism related services and small manufacturing. This diversity, including a large government service sector, has insulated the area from large fluctuations in the local economy. Consequently, Morris County has been able to avoid some of the problems of out-migration and unemployment experienced by Chase County. From 1980 to 1996, the fastest growing sectors in Morris County, in terms of earnings, have been in wholesale and retail trade, services, and government sectors.

For future economic development, Lyon County and Emporia are focusing on a more diversified economy based on light manufacturing, commercial retail, and tourism. The continued presence of Emporia State University will allow many other economic opportunities to develop. The presence of Flint Hills Technical College (a two-year technical school) will increase opportunities to recruit other manufacturing firms requiring skilled workers.

The economic trends described above are mirrored in the trends in income levels in the region. Along with increased levels of employment, there has been a trend toward increased levels of per capita income. Between 1990 and 1996, per capita income in the region increased about 30%, from \$14,400 to \$18,670. This increase is larger than the cost of living increase over the same time period, as measured by the consumer price index.

The percentage of people living in poverty in the region increased between 1979 and 1993; this percentage was somewhat higher than that experienced by the state. In 1993, the region had a poverty rate of 14.3%; the rate in Chase County was 15.0%.

One indicator as to whether incomes are sufficient to satisfy the basic needs of families is the number of food stamp recipients. Although the number of recipients in the project region increased by about 43% between 1990 and 1994, there was nearly a 10% decrease between 1994 and 1996. However, federal welfare reform legislation may have played a role in this most recent change.

VISITOR SERVICES/VISITOR USE

Visitor Use Data

NPS records indicate the following 1998 and 1999 attendance at the preserve:

| | 1998 | 1999 |
|-----------|--------|--------|
| January | 172 | 281 |
| February | 332 | 734 |
| March | 387 | 1,069 |
| April | 1,587 | 1,331 |
| May | 3,045 | 3,135 |
| June | 2,640 | 3,428 |
| July | 2,988 | 2,446 |
| August | 2,230 | 2,221 |
| September | 2,035 | 2,099 |
| October | 2,192 | 2,894 |
| November | 1,041 | 1,746 |
| December | 345 | 402 |
| TOTAL | 18,994 | 21,786 |

Visitor Experience

A range of visitor experience goals has been developed for the preserve in an effort to guide park development and programming. Many of these goals will be implemented, facilitated, or affected by the preserve's interpretation and education program.

Current visitation at the preserve is restricted to tours of the historic ranch headquarters area, and visits to the Lower Fox Creek School and the interpretive trail between the school and the ranch headquarters. These features are contained within approximately 66 acres (27 hectares) of the preserve; most of the current interpretation and visitor services programs take place within this area. Currently, a staff-guided bus tour and periodic special events provide the only access to more remote portions of the preserve.

As the preserve is in its initial development, visitor facilities such as a visitor center, restrooms, and interpretive media and programming are either non-existent or limited. Due to this limited access, and limited visitor services development, few of the visitor experience goals are currently being met.

All of today's visitors are day users and arrive by private vehicle, group tour bus, or bicycle. Some school programs are being held at the site. Much of the visitation is from the region, as the park has not developed a large national constituency. Older visitors make up a considerable percentage of current visitors, as do families and grandparents with their grandchildren. As the preserve is developed for visitor use, it is expected that the site will increasingly become known as a destination attraction rather than as a pass-through attraction.

Public comments indicate a strong interest in gaining access to the more remote areas of the preserve for hiking, horseback riding, fishing, camping, nature study, personal solitude, personal enrichment, etc. There is an interest within the American Indian community to gain access to the park for a variety of activities.

The adequacy of visitor services in the region is related to the type of visitation promoted by local governments and chambers of commerce. With perhaps the exception of the annual Strong City Rodeo and the boating and fishing lakes, the region has been primarily a "pass-through" attraction; that is, visitors will stop in for a few hours or a day on their way to another destination. As an area that mostly receives "pass-through" visits, the region currently has adequate services. Some improvements may be possible by better coordination of advertisement of available visitor services between the three counties and the major cities in the region.

In the future, however, local governments, visitor centers, and chambers of commerce may want to promote the region as a "destination" location, where visitors would spend a few days touring the historical, cultural, and recreational facilities in the area. Lyon, Morris, and Chase counties are working together on a tourism plan to encourage extended visitation in the tri-county region. The counties hope to establish a unique "niche" in the tourism market, based on the historical importance of the cattle industry, the Flint Hills, and the Santa Fe Trail. This may lead to a need to expand the number of family-oriented lodging and eating facilities, camping facilities, and medical services in Chase and Morris counties.

MANAGEMENT INFRASTRUCTURE

Existing Local Policies, Land Use Plans

Public Law 104-333, which authorized the preserve, states that it will be administered in accordance with the enabling legislation, cooperative agreements, and the provisions of law generally applicable to units of the National Park System. It further states that the application of regulations and the maintenance and development of facilities on private lands must be with the consent of the landowner, currently the NPT. The law also includes the authority to expend federal funds for the cooperative management of private property within the preserve for research, resource management, visitor protection, and use.

In August 1997, the NPT and the NPS entered into an interim cooperative agreement for the management of the preserve until the GMP is completed. Then, a long-term legal agreement will be developed. The interim agreement covers many general and specific operational matters.

The NPT and the current grazing lessee have a formal agreement covering specific procedures for access on the leased lands until the GMP is finalized. A separate agreement between the NPT and the grazing lessee also covers the unloading and loading of cattle, including the use of corrals in the ranch headquarters area.

Public Health and Safety

The water system for the historic ranch headquarters does not meet public health standards. The system's age and structural condition are unknown. Two shallow wells, which essentially function only as cisterns, are the only source of water, and lie within the alluvial plain of Fox Creek (NPS 1997 Trip Reports and Public Health Survey Report 1997). A bacterial analysis of the well-water indicated fecal coliform too numerous to count. The water in the system is currently batch chlorinated at the ranch headquarters cistern but the water is still not considered safe for consumption. Potable water must be brought in for both public and staff consumption.

In addition to its quality, the water system is inadequate for fire protection purposes (NPS, 1997 Trip Report). There are no hydrants, reservoirs, or detection and suppression systems in the major buildings. The preserve currently does not have any staff structural fire fighting capability (NPS, 1997 Trip Report). The Chase County Volunteer Fire Department would provide support if a structural fire occurred on the preserve, with an estimated response time of 12 to 15 minutes.

Currently, local county authorities provide emergency medical services and law enforcement support with equipment used for containing prairie fires.

The electrical systems in the ranch house, ranch hand's house, and outbuildings need to be upgraded. The majority of the interior wiring is outdated, does not meet current National Electric Codes, and cannot carry the locally heavy load, even though some panel boxes have been upgraded (NPS, 1997 Trip Report).

The two existing septic systems in the historic ranch headquarters area, which serve the ranch house and ranch hand's house separately, are used by the preserve staff. Both need to be replaced

to ensure compliance with Environmental Protection Agency and state standards for onsite wastewater treatment and disposal. Portable toilets currently provide accommodations for the public and as visitation increases, waste treatment will become a critical issue.

The potential for wildland fire may be of increasing concern as the preserve is further developed and visitation increases. For more than a decade, most ongoing ranching operations, including the pasturing of horses in the headquarters and adjacent nature trail areas, have been eliminated. This has led to an increase in vegetation and resultant fuel loads. In the future, access to all areas could be restricted during periods of high or extreme fire danger.

Lead paint testing, conducted in December 1997 in the historic ranch headquarters and Lantry Ranch headquarters areas, found the presence of significant amounts of lead in many of the structures. Most building exterior surfaces indicated the presence of lead. In addition, all the interior wood surfaces in the ranch house have high levels of lead but are in very good repair so there is no immediate health threat. When major preservation projects are completed on the buildings in the future, the necessary precautions would need to be taken.

State Highway Route 177, the Flint Hills Scenic Byway, cuts through the preserve and passes in front of the historic ranch headquarters and schoolhouse areas. As future visitation and traffic increase, related public safety concerns would increase. Staff at the preserve observe situations in which drivers slow considerably or stop completely on or along the highway in order to take pictures. Due to line-of-sight concerns regarding turning into the existing parking lot from the north, the Kansas Department of Transportation performed an on-site evaluation; they determined that the distance meets the minimum highway requirements.

The preserve is located in an area of Kansas that has tested positive for hantavirus pulmonary syndrome. As a precaution, the barn, which now serves as the contact station during the main (May-October) visitor season, was completely cleaned in March 1998 by an NPS crew with experience in hantavirus mitigation. The park has standard operating procedures for spraying the barn routinely and before special uses with an approved mixture.

Prior to the NPT's purchase of the property, a private contractor completed a Phase I Environmental Assessment. The assessment involved a visual survey of the property from light aircraft, followed by a ground reconnaissance of potentially suspect areas. Also included were a review of property records, discussions with former owners/occupants and local officials, and an asbestos survey to evaluate potential asbestos containing materials in the buildings. The study identified four items of concern: two underground storage tanks which have since been removed, and two areas where dumping has occurred. All contemporary items have been removed from the main dumping area across from the historic ranch headquarters along Fox Creek. The other dumping area noted in the assessment was deeded to Strong City in the 1950s for a sewage treatment plant that is no longer in existence; the site is currently being used by the city as a trash burning site. The results of the asbestos sampling did not indicate its presence in the structures. Prior to transfer to the NPS, a more extensive Level I survey would need to be performed on any property that is determined for federal ownership.

Within the preserve boundary, near Strong City, there exists a long earthen mound stretching along the Fox Creek floodplain. This dike system was most likely built to protect the former

Lantry Ranch headquarters area from flooding. Today, it also protects several residences near the creek.

Existing Special Uses

In March 1995, the NPT and Mr. Edward Bass of Fort Worth, Texas signed a 35-year grazing lease. The lease involves 10,734 acres (4,334 hectares) or over 98% of the preserve (see Figure 12). The rent (\$2 million) was pre-paid in advance, and provides for annual adjustments and the termination of all or part of the lease through a buy-back of the grazing rights. Implementation of any of the action alternatives would require the buy-back of at least portions of the current lease. The lease provides for annual burns and the use of an early intensive stocking regime on all but approximately 490 acres (198 hectares). This 490 acres (198 hectares) is bottomland along Fox Creek which was formerly cultivated. It is no longer cultivated annually and is now primarily planted to perennial brome pasture, with some areas in second growth native grasses. The lease also provides for periodic review of grazing operations and allows NPT access for visitors programs and other purposes. Initial rent was based on current market rates, with provisions for annual adjustments to reflect changes in lease market rates. NPT is actively pursuing funding sources to purchase back portions of the grazing lease in order to implement the General Management Plan.

When NPT purchased the property in 1994, the oil and gas development rights were retained in trust by Boatman's First National Bank of Kansas City for 35 years. Since that time, the Bank of America has become the Trustee. When NPT purchased the property in 1994, the oil and gas lessee was Knighton Oil Company. Knighton Oil Company has recently assigned all of their leasehold working interests to Chisholm Resources, Inc. Prior to this assignment, Knighton Oil Company approached NPT about purchasing the oil and gas leasehold estate and the mineral interests owned by the Bank of America, as Trustee. After considerable investigation and consultation with professionals in the field, it was determined that the asking price was above fair market value and was not within NPT's fiscal capabilities. Gas production has resumed following a 2-3 year period of non-production under Knighton Oil Company.

There are approximately 43 acres (17.4 hectares) in the southern portion of the preserve near U.S. 50 that are not in the grazing lease. The bottomland along Fox Creek is currently planted in brome grass. Cool season grasses like brome are usually grazed in the spring between March 16 - June 30 and again in the fall between September 1 - December 31 or they may be cut for hay.

Rights-of-Way, Easements, and Agreements

There are a number of rights-of-way (ROWs) which exist in the preserve, including an overhead electrical transmission line, a buried high pressure gas pipeline with adjacent telecommunications (fiber optics cable) line, sanitary sewer lines, and a small watershed district detention dam and pond. The ROW for the gas pipeline, which transverses from east to west across the southern portion of the preserve, consists of a 66-foot-wide strip of land, lying 33 feet on the northerly side and 33 feet on the southerly side of the centerline of the pipeline, and a 30 foot by 169 foot site known as the Strong City Town Border Site ROW. The City of Strong City has a permanent easement to operate the city sewage lagoon and has a state permit to discharge effluent from the treatment lagoon into the Cottonwood River via Fox Creek.



Tallgrass Prairie National Preserve Special Use Leases

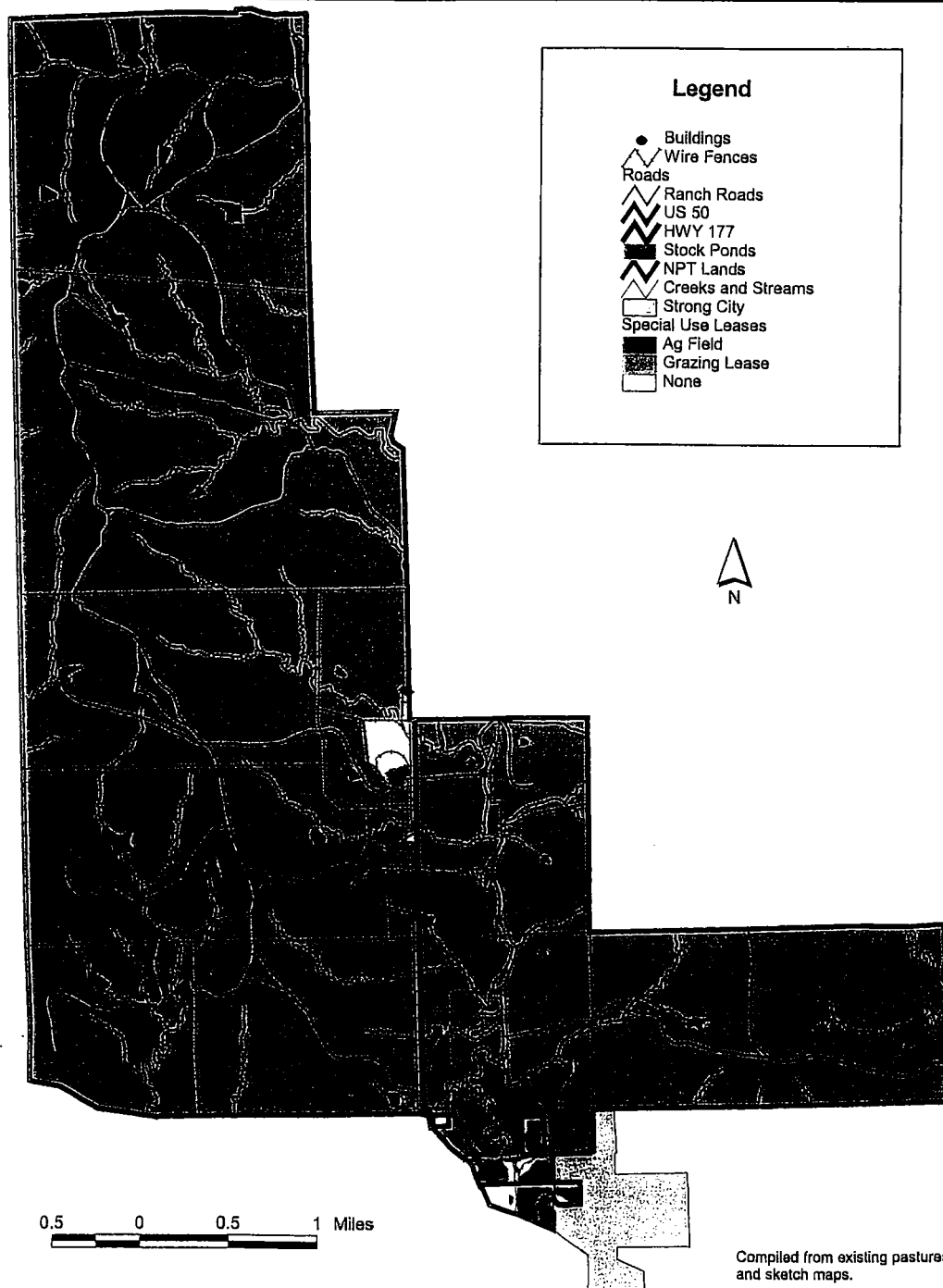


Figure 12

In addition, there are other ROWs that have legal documentation but have not been located. It is not known if they have been abandoned or transferred to another entity or are still in force. These include pipeline, telegraph and other forms of communication, highway, and railroad ROWs. Some date back to 1886.

The potential for future ROWs or reactivation of past easements or agreements is good. Recently (1998), a communication company requested a ROW for another buried fiber optics line adjacent to the high-pressure gas line. However, they decided on an alternate route around the preserve instead.

ROWs represent a major issue because of the potential impact on preserve resources, visitors, and future operations.

Advisory Committee

The advisory committee (see Appendix 10 for a list of members) was established under Section 1007 of the enabling legislation. Appointed by the secretary of the interior in October 1997, the 13-member committee's duties are to advise the secretary and the director of the NPS concerning the development, management, and interpretation of the preserve. This includes providing timely advice during the preparation of the GMP.

The enabling legislation is very specific about the appointment terms and composition of committee members. The members include three representatives from NPT (current property owner); three representatives of local landowners, cattle ranchers, or other agricultural interests; three representatives of conservation or historic preservation interests; one representative of the Chase County commission; one representative of the communities of Strong City and Cottonwood Falls; one representative of the State Governor; and a range management specialist representing state institutions of higher education. Nominations to the committee are submitted to the Secretary by the designated groups, organizations, or entities, or by self-nominations. Members are appointed for three year terms, except that nine of the initial appointment were for four or five years. Each member may be reappointed to serve a subsequent term. The committee does not have a termination date.

SECTION 4: ENVIRONMENTAL CONSEQUENCES

This section describes the impacts that could result from implementation of the alternatives. Since the alternatives described in Section 2 of this document are presented in a general “brushstroke” manner, the analysis of environmental consequences also must be general. The NPS can only make reasonable projections of likely impacts. Thus, this environmental impact statement is programmatic and presents an overview of potential impacts relating to the alternatives. This environmental impact statement will serve as a basis for NEPA documents prepared to assess subsequent developments or management actions.

PRIMARY DIFFERENCES IN IMPACTS BETWEEN ALTERNATIVES

The Preferred Alternative and Alternatives B-E share many common elements. The alternatives also have differences. Many of the differences between alternatives are a function of each alternative's primary focus. As previously explained, all action alternatives are intended to support the park's significance and purpose, achieve desired futures, avoid unacceptable resource impacts, and provide for public enjoyment of the preserve. Thus, natural resources, cultural resources, and visitor use are important considerations in all alternatives. However, the focus of each alternative helps determine how each of these concerns is managed relative to the other concerns.

Because the alternatives share many common elements, many impacts of the alternatives would be similar. The difference in the impacts created by each alternative is related to the difference in focus between alternatives; frequently this difference can be expressed only in terms of a level of intensity. That is, an impact on a resource may be similar among alternatives, but would be of slightly more or slightly less magnitude because of the emphasis an action or program would receive under a particular alternative.

This section briefly highlights some of the notable differences in impacts between alternatives. A complete discussion of the impacts of each alternative follows in subsequent sections.

Implementation of any of the action alternatives, including the preferred alternative, would result in significantly better protection of the preserve's natural and cultural resources than would result if the preserve continued to be managed as it is now (that is, under Alternative A). Any of the action alternatives would also result in significantly improved visitor experiences and increased visitor understanding of the preserve.

Among the action alternatives,

- The Preferred Alternative and Alternative E would provide for a greater expression of vegetative species diversity than any other alternative because these alternatives would place a strong emphasis on the prairie landscape and those processes documented to increase diversity. While some very limited impacts to vegetation may occur, these alternatives would

ENVIRONMENTAL CONSEQUENCES

have the lowest impacts to vegetation from visitation and development, thus allowing for maximum species expression.

- The Preferred Alternative and Alternative E would involve similar impacts from visitor use to vegetative cover. These alternatives would result in fewer impacts to vegetative cover than Alternative B, and significantly fewer impacts to vegetative cover than Alternatives C & D. Because they call for minimal formal trail development and they emphasize rehabilitation of existing roads, the Preferred Alternative and Alternative E would both allow for protection of vegetation that might be lost through the development of trails and through compaction, erosion, etc., on road surfaces.
- Alternative E would provide for a greater improvement to water quality than any other alternative because of the lack of construction directly related to watercourses and the reduction in the number of stocked grazers. Reduction in these activities would reduce sediment loads, erosion, and other factors known to affect the quality of water resources.
- The Preferred Alternative and Alternative E would provide for the greatest knowledge of natural resources because of the emphasis on the prairie landscape and associated processes, the emphasis on the integration of information gained from an intensive inventory and monitoring program, and external research.
- Alternative B would provide for the preservation and restoration of a greater number of cultural landscape features than the Preferred Alternative, and a significantly greater number of cultural landscape features than the other alternatives, because of its emphasis on protecting and interpreting the physical expressions of a cohesive cultural landscape.
- Alternative E would allow for more deterioration of cultural resources than any other action alternative because the emphasis would be on the protection and interpretation of the tallgrass prairie ecosystem preserve-wide.
- Alternative C would facilitate achievement of more visitor experience goals than any other alternative. Alternative D would result in achievement of the fewest number of visitor experience goals.
- Visitor access to bison would be limited under Alternative B. Access to bison would be greatest under Alternative C or E.

ISSUES DISMISSED FROM FURTHER CONSIDERATION

Executive Order 12898 requires federal agencies to address disproportionately high and adverse human health or environmental effects of their program and policies on minorities and low income populations and communities. The alternatives presented in this EIS would have no such adverse effects. The alternatives would not result in any effect specific to any minority or low-income community. People of all races and income status have had opportunities to participate in the public involvement processes conducted with this plan. Consultations were conducted with American Indians; no adverse effects were identified that disproportionately affect these groups.

IMPACTS OF ALTERNATIVE A

Under the no action alternative, the NPS would have a very limited role in the management of the preserve. This would place more responsibility on the NPT. There would be no general management plan to guide decisions on the management or development of the preserve. As land management is not a primary focus of the NPT, that organization could elect to divest its interests in the preserve. A future owner other than NPT may or may not be inclined to continue current trends towards resource protection and visitor use of the land.

Natural Resources

Vegetation

The prairie vegetation would proceed toward a monoculture of grasses with an emphasis on forage production. The fire schedule and grazing intensity would favor perennials and grasses over annuals and spring forbs. Brome would continue to be grown in Fox Creek bottomlands. Exotic plants (noxious weeds) would be controlled, thereby preventing further encroachment on native populations. Riparian vegetation along Fox Creek would continue to decline due to soil compaction and erosion. Vegetation associated with seeps and springs would also be limited or absent due to grazing and soil compaction from cattle. Low impacts to vegetation from visitors could occur due to the absence of new trails and maintenance standards. Gas operations would continue to cause a loss of vegetation due to trampling and/or salt water release.

Wildlife

The burning schedule and intensive grazing regime would result in limited nesting cover, habitat, and forage for bird species. Small mammals, reptiles, and amphibians would lack unburned areas for habitat. Terrestrial invertebrates would have sessile life stages threatened. The current grazing regime favors cattle and allows for limited forage and cover for other species. Fish would continue to tend toward silt tolerant species. Other aquatic species that are tolerant of high nutrient loads in streams and ponds during storm events would continue to increase.

Threatened and Endangered Species

Specific surveys for these species have occurred and one federally-listed species, the Topeka shiner, was found in two locations. Species of concern to the state or federal agencies may be located as a result of additional investigations. Land managers would meet minimum standards necessary to protect critical habitat if outlined in recovery documents for any species found.

Air Quality

Management actions would not be expected to degrade the existing air quality for the preserve. However, increased vehicular traffic from greater visitation may result in limited impacts to air quality in and around parking areas. The burn program would impact air quality during the actual burn, a single event of short duration, with the release of a high concentration of particulate matter occurring during that event.

Water Quality

The preserve would experience periods of high coliform levels in water resources during storm runoff events due to animal waste produced during grazing periods. Increased numbers of cattle would increase coliform levels proportionately. The presence of large concentrations of waste

would continue to contribute to these high coliform levels after the grazing period is over. Sedimentation of watercourses would continue also, due to increased erosion caused by direct cattle access to these areas.

Cultural Resources

Archeological Resources

Twelve prehistoric and historic sites have been documented at the preserve. No archeological program would be in place, and management responsibility for these sites would be dependent upon the direction and management philosophy of the landowner; inventories and evaluations would be done on a site-by-site basis for compliance purposes. The lack of a comprehensive survey could result in a negative impact on the long-term management of the archeological resources. Unidentified or unprotected sites would continue to be impacted by normal deterioration and by inattention, or more actively by human, vehicular, or animal traffic. Erosion resulting from weather, periodic concentration of cattle in specific areas, or lessee or preserve vehicles could destroy archeological data. Continued annual burns could destroy more fragile surface-lying artifacts. New development could impact unidentified sites.

Ethnographic Resources

No ethnographic program would be in place, and management responsibility for these sites would be dependent upon the direction and management philosophy of the landowner; inventories and evaluations would be done on a site-by-site basis for compliance purposes. The preserve would lack a comprehensive ethnographic survey, possibly resulting in negative impacts to the long-term management and protection of such resources. Access to ethnographic resources by traditionally affiliated cultures would be dependent upon the consent of the landowner. The existing grazing intensity and fire schedule could diminish the frequency and availability of natural resources that also serve as ethnographic resources.

Historic Resources

Management and protection of cultural resources would be dependent on the direction and management philosophy of the landowner. There would be no historic resources plan developed. Some of the major structures, associated developments, and portions of the landscape would receive routine or limited maintenance. It is unlikely that collection management or historic furnishings programs would be established, and those resources would continue to be stored in several locations with inadequate curatorial services that do not meet current NPS preservation standards. The risk of loss by theft, vandalism, and fire would be high because of a lack of security and fire suppression systems. New development could adversely impact the open character of the historic cultural landscape.

A concentration of visitor traffic would continue to occur at the barn parking area, the ranch headquarters area, the school, and via the existing tour bus route, increasing the impact on resources such as the barn, corrals, house, the school, and associated landscapes. The ranch house would continue to serve as the primary visitor contact facility, with a high concentration of pedestrian traffic and related high probability of impacts to the historic fabric and museum collection in portions of the house.

Periodic concentration of cattle in specific areas, and repeated use of lessee or preserve vehicles in specific areas could contribute to erosion and deterioration of structures and landscape

features, such as structure ruins, stone walls, plantings, and roads. The remainder of known and unidentified historic resources would have no long-term strategies for treatment, and would be allowed to deteriorate.

Socioeconomic Environment

Since the “no action” alternative represents a continuation of the existing conditions, there would be very little or no impact to the region’s socioeconomic characteristics, including land cover and use, demographic characteristics, general economy, and visitor services.

The greatest impacts, though still relatively minor, would be in the areas of visitor services and employment resulting from an increase in visitation to the preserve.

Visitation to the preserve is likely to increase, regardless of the management alternative selected. This increase likely would result in moderate increases in the number of food service, lodging, and camping facilities in the area. A minor increase would be expected in other visitor service facilities, too, including grocery and specialty stores, gas stations, auto repair, medical and dental services, and financial services such as banks and ATMs. These increases would likely occur in the small towns directly adjacent to the preserve and could result in increased employment and population in the region.

Visitor Services/ Visitor Use

The preserve would look much as it does to today’s visitors in that vistas within the preserve might remain unimpaired by unnecessary development depending on the management practices instituted by the landowner. Gas wells would still be visible in the backcountry.

Visitation to backcountry locations of the preserve would be very limited and would be facilitated by the current landowner/lessee access policy. There would be times when visitors would be unable to experience certain portions of the preserve, such as during periods of seasonal prescribed fire, high grassland fuel loads, or during certain cattle management operations.

Visitors would be unable to observe native grazers (bison) and would not be able to experience tall grasses once common to the bottomlands.

Interpretation services would function without a Comprehensive Interpretation Plan. Depending on the abilities and resources of the landowner, interpretation and education services could be limited due to lack of personnel and other resources. Visitors would not be as likely to experience the greater prairie ecosystem and come to understand the complex interactions within these plant and animal communities. They may not have opportunities to appreciate the value of related prairie sites in the U.S. and worldwide. During periods of peak visitation, visitor densities may be high in the historic ranch headquarters area, creating negative visual impacts and experiences for some visitors. There would likely be noticeable impacts as a result of these visitor densities, including trampling of grass and other vegetation, soil erosion, and loss of historic fabric in or at historic buildings.

Visitors with disabilities would be accommodated to the degree possible through programming or facility design in accordance with the Americans with Disabilities Act of 1990.

Sanitation would remain a problem due to limited comfort station facilities (chemical toilets would likely continue to be the only facilities available). Visitor safety may be negatively affected due to limited personnel, unimproved infrastructure, and lack of specific emergency response capabilities.

Visitor access to the property would be limited during spring burns; the burns, however, would reduce the fire danger.

IMPACTS OF PREFERRED ALTERNATIVE

In the following discussion, reference may be made to one of the four management areas specified in this alternative: Visitor Information and Orientation Area, Flint Hills Ranching Legacy Area, Day Use Area, and Prairie Landscape Area. Please see Figure 4 for a map locating these areas.

Natural Resources

Vegetation

Prairie vegetation would tend toward greater diversity under this alternative and would therefore provide more habitat for invertebrates, small mammals, and birds. Varying the fire regime and grazing patterns, and reducing animal concentrations would allow a wide range of vegetative patterns within a single unit: some areas would remain unburned, others would be burn completely, and still others would be burned at some intermediate level. Early spring forbs and annuals would be allowed fuller expression. Areas where grazing regimes require large numbers of animals within limited space would experience declines in annuals and spring forbs.

The brome would be removed and prairie species would be restored along Fox Creek. Some demonstration row crops also would be planted within the Fox Creek riparian area. Exotic species (noxious weeds) would be controlled. Riparian vegetation would be allowed to recover and would be protected, as would the vegetation associated with springs and seeps. Day use, such as hiking and horseback riding; activities such as research collecting; and repeated patterns of human use may cause loss of vegetation due to trampling, soil compaction, or collection by researchers. Exotic species could be introduced as a by-product of horseback operations unless managed. Non-mechanized access to overnight camping areas may cause some loss of vegetation due to soil compaction. The development and use of existing roads would reduce trampling and compaction of soil, thus resulting in a lower vegetation loss. Rehabilitation of gas development sites and related roads would restore native vegetation lost by soil compaction or salt-water discharge.

Wildlife

Establishing an area for the reintroduction of bison would reduce the amount of area available for the early intensive stocking of cattle. Initially, the bison area would have a small number of animals resulting in patchy grazing, thus encouraging access by other native grazers. By varying fire regimes and leaving patches of prairie unburned, habitat for nesting birds, small mammals, and insects would increase. Vertebrate and invertebrate life forms also would have an increased likelihood of propagation within the resulting patchy vegetation. Areas that continued under intense grazing regimes would continue to have large concentrations of animals within limited space, and would show declines in bird, small mammal, amphibian, reptile, and insect habitat during the spring and early summer.

Sedimentation transport, erosion, and nutrient loads within sensitive aquatic resources would be lessened due to reduced animal stocking rates. These changes, combined with access restrictions and the restoration of riparian areas, could cause an increase in species of fish that lack tolerance to heavy silt and gravel. Hardened stream crossings would affect hydrology and may serve as barriers to fish migration/spawning during low water.

Threatened and Endangered Species

To facilitate protection of threatened and endangered species, site specific surveys would target areas such as springs, seeps, and unnamed tributaries that may contain species of concern for state and federal agencies. Any areas found to contain species of concern would receive higher priority for resource management activities designed to protect those species. The establishment of an ongoing inventory program and research effort to guide management decisions would contribute significant information regarding restoration, species of concern, and habitat requirements.

While the reduction in the number of grazers would lessen sedimentation loads, certain actions proposed under this alternative, such as trail or road work, could result in increased runoff to area streams, thereby increasing sedimentation and degrading habitat necessary for the Topeka shiner and the cardinal shiner. Any such action would be carefully planned to minimize the opportunity for runoff and appropriate mitigation measures would be applied.

The National Park Service has entered into informal consultation with the U.S. Fish and Wildlife Service as required by Section 7 of the Endangered Species Act (16 U.S.C. § 1536 (c) (1)). As part of this consultation, the NPS has prepared a biological assessment (BA) for the preferred alternative regarding listed and proposed species. The BA determined that the preferred alternative might, but is not likely to, adversely effect the Topeka shiner. The preferred alternative would have no effect on the bald eagle.

Because this GMP is a conceptual, programmatic planning document, it does not allow for site- or project-specific impact assessment. Therefore, the NPS has committed (as part of the BA) to consult with the U.S. Fish and Wildlife Service before initiating any action that would potentially impact a listed species.

The U.S. Fish and Wildlife Service has concurred with the determinations of the biological assessment.

Air Quality

Management actions would not be expected to degrade the existing air quality at the preserve. However, increased vehicular traffic from visitation may result in limited impacts to air quality in and around parking areas. The air quality would be impacted by several short duration releases of particulate materials in high concentrations when fires were burning under the fire management program. There would be an increase in ambient dust during construction, rehabilitation, and maintenance work.

Water Quality

Reduced stocking rates of grazers would result in reduced animal waste runoff during storm events, lower coliform levels, and lower nutrient concentrations in preserve waterways. Activities associated with the restoration of the areas now in brome and the annual planting of agricultural crops in small areas may cause limited periods of increased siltation in Fox Creek.

The overall sedimentation rates in sensitive aquatic resources would be lower since grazers would be restricted from these areas. As a result of these restrictions, some stream reaches, seeps, and springs would recover vegetation that has been lost due to past trampling and soil

compaction. Restoration of vegetative buffers would improve water quality, since the vegetation would provide filtering effects and would help reduce the duration and intensity of flood events. There would be appropriate erosion control measures taken during construction.

Water crossings at uncontrolled points (points other than at paved low-water crossings or on already established roads) could break down established stream banks, accelerate erosion, and contribute to headcutting inside drainages. This could lead to increased sedimentation in local segments and eutrophication in areas immediately adjacent to crossing locations.

Cultural Resources

Archeological Resources

Archeological resources would be preserved and protected. Limiting development and improvements, and controlling motorized traffic would reduce potential impacts to archeological sites. Expanded park operations, or increased visitation in concentrated areas, could negatively impact known resources and sites.

Establishing campsites in the Prairie Landscape Area could impact previously unknown archeological resources, depending on their location and size. Preliminary to any physical development, these impacts would be mitigated through archeological surveys. Minor impacts on previously unknown archeological resources could be caused by construction associated with the Visitor Information and Orientation Area.

Ethnographic Resources

Ethnographic resources would be managed for traditional practices preserve-wide. Limiting improvements and controlling motorized traffic would reduce potential impacts to the ethnographic resources. Expanded park operations, or increased visitation in concentrated areas, could negatively impact known resources and sites. Natural resource protection, the introduction of native ungulates in the Prairie Landscape Area, and prairie enhancement activities may increase the frequency and availability of natural resources determined to be ethnographic resources.

Depending on their location and size, establishing campsites in the Prairie Landscape Area could impact previously unknown ethnographic resources. Minor impacts on previously unidentified ethnographic resources could be caused by construction associated with the Development Area.

Historic Resources

Under this alternative, the historic resources located in the Flint Hills Ranching Legacy Area would receive the greatest degree of protection through preservation. The restoration and use of historic resources and landscape features would aid in the preservation of the resources. Restoring or rehabilitating some plantings, orchards, gardens, and agricultural use areas would enhance the interpretation of the evolution of the historic landscape. The open character of the cultural landscape would be protected. Museum collections would be stored and exhibited in the Visitor Information and Orientation Area, and would meet current NPS preservation standards. Placing visitor facilities, administrative facilities, and maintenance facilities in the Visitor Information and Orientation Area would reduce the sensory and physical impacts of visitor and vehicular traffic at the historic ranch headquarters area and the school.

Rehabilitating some structures and historic circulation patterns could impact some of the resources' character-defining features. Heavy wear on historic resources could occur in areas of high visitor use, resulting in a slight impact to the historic character and to the materials of the historic resources. Increased visitor use levels, in both vehicular and foot traffic, could impact historic materials. In the Day Use Area and Prairie Landscape Area, the stabilization of historic resources would provide some protection for features of the cultural landscape, but could also result in the greater potential for deterioration to the resources through weather and erosion, and through the impact of grazers. There would be a loss of historic fabric and information for those resources that were allowed to deteriorate. Depending upon the conclusions of inventories and evaluations, the removal of some stock ponds and roads could remove elements of the historic cultural landscape. The location of animal management facilities could minimally impact the viewshed of the historic cultural landscape. Camping activities could also have a negative impact on cultural landscapes, depending on the site, location, size, and use levels.

Socioeconomic Environment

Overall, there would be very little or no impact on the region's socioeconomic characteristics. Most of the changes would arise from the expected increase in visitation to preserve-based developments. Given the relative size of the preserve, 10,894 acres (4398.1 hectares) compared to the three-county region (nearly 1.5 million acres; 605,561 hectares), any change to the preserve's land use or land cover would result in little or no impact. Increased visitation and the induced stimulus to economic growth are expected to result in very minor changes to the region's total population and age distribution. Increased employment opportunities, a result of this economic growth, could attract more people to the region.

The current trend of increasing numbers of senior citizens in the region may be slowed somewhat by the influx of working-age individuals and families, resulting in a very minor change to the age distribution. No impacts on the gender, ethnic/race, or urban/rural distribution of the population of the region are expected. This alternative would not result in adverse human health or environmental conditions for any persons living in the region. Thus, those persons identified as living below the poverty level would not be disproportionately affected by the alternative.

The construction and restoration work on the preserve may create more short-term opportunities for employment, and some service-related jobs that are created may be seasonal in nature. Impacts on the general economic characteristics of the region would be driven by increased visitation, which would result in some increase in both the number of establishments and amount of earnings in the service and retail trade sectors. The construction of new service and retail facilities, as well as increased employment and population in the region, would encourage growth within all sectors of the economy. The current trend toward small businesses is expected to continue. Construction and restoration work, as well as general preserve operations would benefit a variety of suppliers and their employees.

The agricultural component of the preserve would change from the current conditions, as bison would be introduced on 1,000+ acres (404+ hectares) of the preserve, limiting the amount of forage available for cattle grazing. Cattle grazing would be further limited, as cattle would be excluded from springs and seeps where sensitive native plant and animal species are found, and from riparian areas. Portions of the historic agricultural use areas and bottomland tallgrass prairie

would be restored along Fox Creek. However, all of these changes to land use, agricultural use, and output would be very minor, in relationship to the region overall.

Expansion within the general economy, due to increased visitation to the preserve, would create additional employment opportunities and would result in a very minor increase in employment in the region. A small number of jobs would be created on the preserve; most of these would be relatively high paying when compared to prevailing wage rates. General economic growth and increased employment opportunities in the region may cause a very minor increase in regional per capita income. No change, or a small decrease in existing poverty levels within the region, may take place.

The initial acquisition of approximately 29 acres (11.7 hectares) of preserve land by the NPS would result in this land being removed from local tax roles. The current tax revenue generated by this land is estimated to be approximately \$3100.00. To compensate local governments for this loss of revenue, 31 U.S.C. 6904 provides that the federal government shall make a payment in lieu of taxes (PILT) to the local government that is equal to one percent of the fair market value of the land (not to exceed the amount of real property taxes levied on the property during the last fiscal year before the fiscal year in which the land is acquired). This PILT shall be made for the five fiscal years after the fiscal year in which the land is acquired. The remaining land on the preserve, not acquired by the NPS, would still be subject to property taxes, which would be paid by the NPT or its successor.

The tourism sector is likely to change the most among all the socioeconomic factors in the region, as a result of increased visitation. Moderate increases in the number of food service, lodging, and camping facilities would be expected. This increase would be necessary to meet the needs of growing numbers of visitors to the preserve. A minor increase would be expected in other visitor services, including grocery and specialty stores, gas stations, auto repair, medical and dental services, and financial services such as banks and ATMs. These increases would likely occur in the small towns directly adjacent to the preserve.

Preserve visitation likely would be seasonal in nature, thus affecting the service-related jobs in terms of both income and length of employment.

Visitor Services/ Visitor Use

Vistas would remain unimpaired by unnecessary development within the preserve. As gas wells and associated roads were removed from the preserve, those sites would be rehabilitated, resulting in enhanced vistas in portions of the preserve.

Visitors would be able to see and experience native grazers (bison) on a significant portion of the prairie. Visitors also would be able to experience tall grasses by walking through them in restored bottomland prairie in addition to the Southwind Trail.

Implementation of this alternative would permit a variety of activities and experiences including day hiking, overnight camping, nature study, and horseback riding. Though visitation may be limited during certain portions of the year, for resource management purposes and visitor safety concerns, visitors would have access to a high percentage of the preserve most of the year.

Cultural resources would be stabilized, preserved and enhanced, resulting in a quality experience for visitors seeking contact with remnants of the past. Interpretation and education programming would focus on a variety of time periods represented by cultural resources at the preserve, thus enabling visitors to develop a greater understanding and appreciation for the preserve interpretation themes.

Visitors with disabilities could be accommodated to the degree possible through programming and facility design in accordance with the Americans with Disabilities Act.

Proper sanitation and enhanced public health would result from the development of appropriate facilities. During periods of high visitation, visitor densities may be high in the historic ranch headquarters area and other areas. Facilities would be designed to minimize visitor impacts to park resources. Visitor use limits would be established to reduce impacts to resources and visitor experience.

Visitor safety would be ensured through adequate staffing, adherence to prescribed guidelines, improved infrastructure, and enhanced emergency response capabilities.

Other Impacts

Cumulative Impacts

Cumulative impacts are impacts on the human environment that result from the incremental impact of an action when added to other past, present, and reasonably foreseeable future actions, regardless of which government agency or private entity undertakes such actions. Cumulative impacts result from individually minor, but collectively significant, actions that occur over a period of time.

The actions proposed in this alternative should contribute to few cumulative impacts to the preserve and to the surrounding environs.

Proposed programs that would enable the preserve to initiate resource protection, inventories, and monitoring would provide the preserve with information that would be beneficial to those involved in research to protect tallgrass prairie ecosystems. Similarly, knowledge gained about the preserve's cultural resources would complement the efforts of historic and preservation groups throughout the region.

If prescribed fires within the preserve are held concurrently with other planned burns on nearby private lands, air quality in the Chase County area could be adversely impacted for short periods of time. If fires on adjacent lands inadvertently cross property lines onto the preserve, efforts to maintain a heterogeneous burning/grazing regime could be temporarily sidetracked. Fires on the preserve also could cross onto adjacent lands, affecting fire regimes on those lands. A Fire Management Plan will be developed with public input that will address cooperative and collaborative efforts to mitigate these effects.

Increased development in the area of the preserve could result in degradation of the cultural landscape. Further, improperly installed septic systems could degrade the quality of streams and other water bodies on the preserve. The National Park Service will work with local governments to minimize the likelihood of these types of impacts.

Relationship of Short-Term Uses and Long-Term Productivity

The long-term effects would be positive for the enhancement and preservation of both the natural and cultural resources. The potential for meeting visitor expectations at the preserve would be greatly enhanced.

Irreversible and Irretrievable Commitment of Resources

Irreversible commitments of resources include the destruction of non-renewable resources such as historic fabric and archeological resources. Even with mitigation measures, some historic fabric and archeological resources may be lost during restoration and maintenance activities and during construction. In addition, should the visitor center/administration/maintenance/shuttle complex be located within the preserve, some prairie would be lost. Irretrievable commitment of resources includes committing resources, and associated funding, to such activities as construction, restoration, and maintenance. With these commitments, this funding and these renewable resources are lost for other activities.

IMPACTS OF ALTERNATIVE B

In the following discussion, reference may be made to one or more of the management areas identified for this alternative: Cultural Area, Natural Area, Development Area, and Special Use Area. Please see Figure 5 for a map locating these areas.

Natural Resources

Vegetation

This alternative proposes a small management area where natural processes would be given the greatest emphasis. Early spring forbs and annuals would be allowed greater expression. The larger area emphasizing cultural resources would still allow for protection and preservation of the tallgrass prairie, but the overriding concern and emphasis in this larger area would be for cultural resources. While the prairie vegetation within the larger area would tend toward greater diversity under the varying fire regime, grazing patterns, and animal concentrations, competing interests such as cultural resource preservation, agricultural use, historic structure maintenance, etc. could affect prairie enhancement activities.

The brome would be removed as a cultivated crop, and prairie species would be restored in Fox Creek bottomlands. Exotic species (noxious weeds) would be controlled. Riparian vegetation, as well as the vegetation associated with springs and seeps, would be allowed to recover and would be protected. Some impacts to vegetation, such as trampling and soil compaction, would occur due to visitor activities and the lack of new trails (causing visitors to establish "volunteer trails"). Although camping opportunities would be limited under this alternative, some loss of vegetation could occur due to soil compaction where camping occurs. Areas adjacent to gas wells would continue to experience vegetation loss. Restoration of agricultural areas, orchards, and gardens may introduce exotic species but it is unlikely that they would spread to native prairie areas.

Wildlife

The establishment of a Natural Area with bison as the primary grazer would reduce the amount of cattle placed on the land through intensive stocking regimes; the resulting ungrazed areas or areas of incomplete grazing would encourage access by other native grazers. The varying fire regimes would allow dispersed habitat for nesting birds, small mammals, and insects.

Sediment transport, erosion, and nutrient loads in sensitive aquatic resources would be reduced due to access restrictions and the restoration of riparian areas. Silt intolerant fish species should increase due to reduced animal stocking rates and lower sedimentation loads.

Threatened and Endangered Species

Surveys and monitoring efforts would be issue-driven and would not specifically target species of concern. Certain actions proposed under this alternative could result in increased runoff to area streams, thereby increasing sedimentation and degrading habitat necessary for the Topeka shiner and the cardinal shiner. Any such action would be carefully planned to minimize the opportunity for runoff. Appropriate mitigation measures would be applied. The National Park Service would consult with the U.S. Fish and Wildlife Service before initiating any action that would potentially impact the Topeka shiner (as required by Section 7 of the Endangered Species Act).

Although the biological assessment was not based on Alternative B, the National Park Service believes that the basic determinations (i.e., "findings") would be valid for this alternative. This belief would be discussed and verified with the U.S. Fish and Wildlife Service prior to signing any record of decision based on Alternative B.

Air Quality

Management actions would not be expected to degrade the existing air quality at the preserve. However, increased vehicular traffic from visitation may result in limited impacts to air quality in and around parking areas. The air quality would be impacted by several short duration releases of particulate materials in low concentrations during prairie burns. There would be an increase in ambient dust during construction, rehabilitation, and maintenance activities.

Water Quality

Reduced stocking levels of grazers may result in less animal waste runoff during storm events and lower coliform levels and nutrient concentrations.

The sedimentation rates would be lower with grazers excluded from sensitive aquatic resources. Vegetation in some stream reaches, seeps, and springs would recover from trampling and soil compaction. There would be appropriate erosion control measures taken during construction.

Water crossings at uncontrolled points (points other than at paved low-water crossings or on already established roads) could break down established stream banks, accelerate erosion, and contribute to headcutting inside drainages. This could lead to increased sedimentation in local segments and eutrophication in areas immediately adjacent to crossing locations.

Cultural Resources

Archeological Resources

Archeological resources would be preserved and left undisturbed within all areas of the preserve. Limitations on improvements and control of motorized traffic would reduce potential impacts to archeological sites.

Expanded park operations, or increased visitation in concentrated areas, could negatively impact known resources and sites. Depending on their location and size, campsites in the Natural Area and the Development Area would have the potential to impact previously unknown archeological resources. Unknown archeological resources could be impacted by construction associated with the Development Area.

Ethnographic Resources

Ethnographic resources would be managed for traditional practices preserve wide. Limited improvements and restricted motorized traffic in the natural area would reduce potential impacts to ethnographic resources. Expanded park operations, or increased visitation in concentrated areas, could negatively impact known resources and sites. Natural resource protection, the introduction of native ungulates in the Natural Area, and prairie enhancement activities in the Cultural and Natural areas may increase the frequency and availability of natural resources that are determined to be ethnographic resources.

Depending on their location and size, campsites in the Natural and Development areas have the potential to impact previously unknown ethnographic resources. Construction associated with the Development Area may impact previously unidentified ethnographic resources.

Historic Resources

The majority of historic resources in the preserve would be preserved, protected, and interpreted. All significant structures in the Cultural Area would be restored. Restoring, rehabilitating, or stabilizing historic features, archeological sites, plantings, orchards, gardens, and agricultural use areas throughout the preserve would contribute to the interpretation of the evolution of the historic landscape. Reducing the visual impacts associated with gas and oil operations and limiting motorized traffic would protect the open character of the cultural landscape. Archival and curatorial management of for museum collections would be provided in the development area, and meet current NPS preservation standards. Consolidating visitor, administrative, and maintenance facilities in the Development Area would reduce the sensory and physical impacts of visitor and vehicular traffic at the historic ranch headquarters area and the school.

Rehabilitating significant historic circulation patterns could impact some of the resources' character-defining features. Heavy wear on historic fabric could occur in areas of high visitor use, resulting in a slight impact to the historic character and materials of the historic resources. Increased visitation levels, in both vehicular and foot traffic, could impact historic materials. In the natural area, the stabilization of historic resources would provide limited protection of features of the cultural landscape, but could also result in the greater potential for the deterioration of resources through weather and erosion, and through the impact of grazers. The location of animal management facilities in the natural area could impact portions of the viewshed of the historic cultural landscape. Camping opportunities could also have a negative impact on cultural landscapes, depending on the site, location, size and use levels.

Socioeconomic Environment

The impacts of Alternative B are very similar to those described for the Preferred Alternative, except in the following areas.

Alternative B is expected to have no significant impact on regional agricultural output. It incorporates various combinations of cow-calf, season-long, year-round cattle, and crop production activities. Thus, while the overall level of regional agricultural output will not be affected, the composition of agricultural output at the local level could be affected.

Visitor Services/ Visitor Use

Visitation to the park's cultural resources would permit use and enjoyment of much of the scenery of the preserve. Some dispersed backcountry camping would be available to visitors and solitude would be possible. Impacts of gas and oil operations on visitors would be limited.

Visitor access would be facilitated by public transportation to major areas of the preserve. Visitor interpretation and education would vary from area to area; programs would be adapted to high visitor densities in the Cultural Area and very low densities in the Dispersed Use Area. Visitors would not have opportunities to hunt and fish on the preserve. Interpretive signs and markers

would be placed in the primary historic structure areas, but hiking trails would not be developed for visitors beyond what is available at present. Design of new development would be sensitive to visitor concerns and interests, and would maintain harmony and continuity with the landscape's natural and cultural features.

The emphasis of interpretation and education programming would be the cultural history of the preserve. In the Dispersed Use Area, many cultural resources would be stabilized only, resulting in visitor awareness of resource degradation over the long term. All historic orchards, plantings, and gardens would be replanted and available as a focus for visitor interpretation and education, resulting in a large number of historic "scenes" compared to the other alternatives.

A small area would be devoted to prairie enhancement, creating a minimal opportunity for visitors to experience natural processes. The bottomland tallgrass prairie restoration area would be accessible to visitors. Visitors would be able to see and bison in a small area, although bison would not be readily visible by most visitors, as they would be located in a more remote section of the preserve.

The number of bison would be small and restricted to specific areas, reducing the chances for visitor injuries. During periods of prescribed fire activities, visitors would be excluded from certain portions of the preserve. Visitor safety and comfort would be enhanced by a centralized public transportation system.

Visitors with disabilities would be accommodated to the degree possible through programming and facility design in accordance with the Americans with Disabilities Act.

Proper sanitation and public health would be enhanced by the development of appropriate facilities. During periods of high visitation, visitor densities may be high in the ranch headquarters area and other areas of the preserve. Facilities would be designed to reduce visitor impacts to resources. Visitor use limits would be established to reduce impacts to preserve resources and enhance visitor experiences.

Visitor safety would be ensured through adequate staffing, adherence to prescribed guidelines, improved infrastructure, and enhanced emergency response capabilities.

Other Impacts

Cumulative Impacts

Cumulative Impacts are expected to be the same as for the preferred alternative.

Relationship of Short-Term Uses and Long-Term Productivity

Proposed actions such as the removal of non-historic facilities, the construction of camping areas, or the removal of roads to restore native prairie vegetation would require relatively minor disturbance of soils, vegetation, and habitat. Mitigation measures would be used. Constructing facilities in the Development Area would result in larger disturbances, and mitigation measures would be used to lessen that impact. The long-term effect on the natural and cultural environment would be minor in terms of habitat or resource loss, but the visitor experience would be greatly improved and the potential for meeting visitor expectations at the preserve would be enhanced.

Irreversible and Irretrievable Commitment of Resources

Some historic fabric and archeological and ethnographic resources could be lost through some developments proposed in Alternative B. Rehabilitating structures could result in loss of historic fabric. Restoring native vegetation could remove cultural landscape features from the preserve, along with possible archeological or ethnographic resources. Construction within the Development Area could also result in the loss of both cultural and natural resources, even with mitigating measures. Irretrievable commitment of resources would include the commitment of renewable resources in the construction of new campgrounds, trails, and facilities in the Development Area, and the use of funds to carry out these activities.

IMPACTS OF ALTERNATIVE C

In the following discussion, reference may be made to one or more of the management areas identified for this alternative: Development Area, Moderate Use Area, and Dispersed Use Area. Please see Figure 6 for a map locating these areas.

Natural Resources

Vegetation

This alternative would emphasize visitor experience while enhancing the tallgrass prairie. Through the use of varying fire regimes, grazing patterns, and animal concentrations, prairie vegetation would tend toward greater diversity in those areas with dispersed use or highly regulated use. Early spring forbs and annuals would be allowed to express themselves more fully. Some impacts to vegetation would occur because of the emphasis on meeting the visitor experience goals.

The brome would be removed and prairie species would be restored in Fox Creek bottomlands. Exotic species (noxious weeds) would be controlled. Riparian vegetation would be allowed to recover and would be protected, as would the vegetation associated with springs and seeps. Visitor activities would be of a low-impact nature, and there would be a lack of new trails and maintenance activities, which would further limit impacts to vegetation. However, allowing camping in the Dispersed Use Area may cause some loss of vegetation due to soil compaction in the camping areas.

Wildlife

The Dispersed Use Area, where bison would be the primary grazer, would attract other native grazers due to the variations in grass heights and grazing patterns that would result from limiting the number of animals on the land. The varying fire regimes would allow habitat for nesting birds, small mammals, and insects.

Sediment transport, erosion, and nutrient loads in sensitive aquatic resources would be reduced due to access restrictions and restoration of riparian areas. Silt intolerant fish species may increase due to reduced animal stocking rates and sedimentation loads.

Threatened and Endangered Species

Surveys and monitoring efforts would be issue-driven and would not specifically target species of concern. Certain actions proposed under this alternative could result in decreased runoff to area streams, thereby increasing sedimentation and degrading habitat necessary for the Topeka shiner and the cardinal shiner. Any such action would be carefully planned to minimize the opportunity for runoff. Appropriate mitigation measures would be applied. The National Park Service would consult with the U.S. Fish and Wildlife Service before initiating any action that would potentially impact the Topeka shiner (as required by Section 7 of the Endangered Species Act).

Although the biological assessment was not based on Alternative C, the National Park Service believes that the basic determinations (i.e., "findings") would be valid for this alternative. This belief would be discussed and verified with the U.S. Fish and Wildlife Service prior to signing any record of decision based on Alternative C.

Air Quality

Management actions would not be expected to degrade the existing air quality of the preserve. However, increased vehicular traffic from visitation may result in limited impacts to air quality in and around parking areas. The air quality would be impacted by several short duration releases of particulate materials in low concentrations due to fire management activity. There would be an ambient increase in the amount of dust during construction, rehabilitation, and maintenance activities.

Water Quality

Reduced stocking levels of grazers may result in less animal waste runoff during storm events, and lower coliform levels and nutrient concentrations. The sedimentation rates would be lower because grazers would be restricted from sensitive aquatic and riparian resources. Vegetation in some stream reaches, seeps, and springs would recover from trampling and soil compaction. There would be appropriate erosion control measures taken during construction. Heavy visitor use may result in increased erosion and sedimentation.

Water crossings at uncontrolled points (points other than at paved low-water crossings or on already established roads) could break down established stream banks, accelerate erosion, and contribute to headcutting inside drainages. This could lead to increased sedimentation in local segments and eutrophication in areas immediately adjacent to crossing locations.

Cultural Resources

Archeological Resources

Archeological resources would be preserved and left undisturbed. Limitations on improvements and restrictions on motorized traffic in the Dispersed Use Area would reduce potential impacts to archeological sites. Expanded park operations and increased visitation in concentrated areas could negatively impact known resources and sites. Campsites, depending on their location and size, could impact previously unknown archeological resources in the Dispersed Use Area. Minor impacts on previously unknown archeological resources could be caused by construction associated with the Development Area, and development associated with visitor transportation sites and hardened trails in the Moderate Use Area.

Ethnographic Resources

Ethnographic resources would be managed for traditional practices. Limitations on improvements and the control of motorized traffic in the Dispersed Use Area would reduce potential impacts to ethnographic resources. Expanded park operations and increased visitation in concentrated areas could negatively impact known resources and sites. Natural resource protection, the introduction of native ungulates in the Dispersed Use Area, and prairie enhancement activities may increase the frequency and availability of natural resources that are determined to be ethnographic resources.

Depending on their location and size, campsites in the Dispersed Use Area may impact previously unknown ethnographic resources. Construction associated with the Development Area, visitor transportation sites, and hardened trails in the Moderate Use Area could impact previously unidentified ethnographic resources.

Historic Resources

Select historic resources, chosen as the best examples for interpretation purposes, would be protected through restoration and preservation; others would be stabilized. Restoration of historic plantings, agricultural crops, or orchards would be more limited, and would be used to create demonstration plots for interpretation purposes. The open character of the cultural landscape would be protected through limiting visual impacts associated with gas and oil operations, controlling trail use and development, and placing restrictions on motorized traffic. Archival and curatorial management of museum collections would be provided in the Development Area, and would meet current NPS preservation standards. Placing visitor, administrative, and maintenance facilities in the Development Area would reduce the sensory and physical impacts of visitor and vehicular traffic at the historic ranch headquarters area and the school.

Rehabilitating infrastructure in the Moderate Use Area may remove some character-defining features of the historic resources. Heavy wear on historic resources could occur in areas of high visitor use, resulting in an impact to the historic character and materials of the historic resources. Increased visitation levels, in both vehicular and foot traffic, could impact historic materials. The removal of existing roads in the Dispersed Use Area could remove elements of the historic cultural landscape. The location of animal management facilities in the Moderate Use Area could impact the viewshed of the cultural landscape. The stabilization of most historic resources would provide minimum protection for features of the cultural landscape, but could also result in a greater potential for deterioration of the resources from weather and erosion, and from the impact of grazers.

Camping opportunities in the Dispersed Use Area could also have a negative impact on the cultural landscape, depending on the site, location, size, and use levels.

Socioeconomic Environment

The impacts of Alternative C are very similar to those described for the Preferred Alternative, except in the following areas.

Alternative C would result in a very minor change in land use patterns for the region. Over half of the preserve acreage would be devoted to the grazing of bison. Cattle operations would be restricted to a smaller portion of the preserve than at present, affecting the level of regional agricultural output; this decrease in output, however, would be very minor. Some agricultural demonstration plots in the Fox Creek floodplain would be developed. The significance to the land use of the region as a whole would be very minor.

With the decreased emphasis on agriculture, there could be a very small decrease in the number of employees associated with agricultural operations. However, any decrease in this area would be offset by the increased employment associated with increased visitation and services.

Visitor Services/ Visitor Use

Visitation to the preserve's three use areas would permit access to and enjoyment of much of the scenery of the preserve. Some dispersed backcountry camping would be available to visitors and solitude would be possible.

Bison would be accessible to visitors in a large backcountry section of the preserve. The bottomland tallgrass prairie restoration area would be accessible to visitors to experience and enjoy.

Visitor access would be facilitated by public transportation. Visitor interpretation and education programming and facilities would be offered primarily in the Development Area, and to a lesser degree in the Moderate Use Area. Visitor recreational pursuits would be the focus of much of the visitor activities. Interpretive signs and markers as well as interpretive trails would be developed throughout much of the preserve. Design of new development would be sensitive to visitor experience goals and interests, and would maintain harmony and continuity with the landscape, and natural and cultural features. A variety of experiences would be available.

Interpretation and education efforts would be concentrated on "best examples" of preserve cultural resources. Some historic orchards, plantings, and gardens would be replanted and available to the visitor. Season long and cow-calf cattle operations would be interpreted.

During periods of prescribed fire management activities, visitors would be excluded from certain portions of the preserve. Visitor safety and comfort would be enhanced by a centralized public transportation system.

Visitors with disabilities would be accommodated through programming and facility design in accordance with the Americans with Disabilities Act.

Proper sanitation and public health needs would be provided through the development of appropriate facilities. During periods of high visitation visitor densities may be very high in the ranch headquarters area and other areas of the preserve. Facilities would be designed to reduce visitor impacts to resources. Visitor use limits would be established to reduce impacts to the resources and enhance visitor experiences.

Visitor safety would be ensured through adequate staffing, adherence to prescribed guidelines, improved infrastructure, and enhanced emergency response capabilities.

Other Impacts

Cumulative Impacts

Cumulative Impacts are expected to be the same as for the preferred alternative.

IMPACTS OF ALTERNATIVE D

In the following discussion, reference may be made to one or more of the management areas identified for this alternative: Grazing Area, Ranch Operations Area, and Fox Creek Floodplain Area. Please see Figure 7 for a map locating these areas.

Natural Resources

Vegetation

Prairie vegetation would tend toward greater diversity within the confines of a rigorous monitoring program to prevent over-utilization under the dual emphasis of ranching and the tallgrass prairie ecosystem. Varying fire regimes, varying grazing patterns, and changes in grazer concentrations would result in greater diversity, but dilution of that diversity would remain high due to the ranching emphasis. Early spring forbs and annuals would be allowed greater expression.

The brome would be removed and prairie species would be restored in Fox Creek bottomland. Exotic species (noxious weeds) would be controlled, but the increased visitor use, especially associated with horse use, may result in additional exotic plant species becoming introduced. Riparian vegetation would be allowed to recover and would be protected, as would the vegetation associated with springs and seeps. Recreational uses such as trail rides, wagon rides, and hiking; and activities such as trail construction may cause soil compaction, resulting in a negative impact on vegetation.

Wildlife

The grazing area containing both cattle and bison would encourage access by other native grazers due to the varying height of grasses and different grazing patterns that would result from the lighter stocking rate. The varying fire regimes would allow increased habitat for birds, small mammals, and insects, as well. Sediment transport, erosion, and nutrient loads in sensitive aquatic resources may decrease due to access restrictions and the restoration of riparian areas. Silt intolerant fish species may increase due to a reduction in intensive early stocking rates and lower sediment loading.

Threatened and Endangered Species

Surveys and monitoring efforts would be issue-driven and would not specifically target species of concern. Certain actions proposed under this alternative could result in increased runoff to area streams, thereby increasing sedimentation and degrading habitat necessary for the Topeka shiner and the cardinal shiner. Any such action would be carefully planned to minimize the opportunity for runoff. Appropriate mitigation measures would be applied. The National Park Service would consult with the U.S. Fish and Wildlife Service before initiating any action that would potentially impact the Topeka shiner (as required by Section 7 of the Endangered Species Act).

Although the biological assessment was not based on Alternative D, the National Park Service believes that the basic determinations (i.e., "findings") also would be valid for this alternative. This belief would be discussed and verified with the U.S. Fish and Wildlife Service prior to signing any record of decision based on Alternative D.

Air Quality

Management actions would not be expected to degrade the existing air quality at the preserve. However, increased vehicular traffic from visitation may result in limited impacts to air quality in and around parking areas. The air quality would be impacted by several short duration releases of particulate materials in low concentrations during fire management activities. Increases in ambient dust would occur during construction, rehabilitation, and maintenance activities.

Water Quality

Reduced stocking levels of grazers may result in less animal waste runoff during storm events, and lower coliform levels and nutrient concentrations. The sedimentation rates may be lower by restricting grazers from sensitive aquatic resources. Vegetation in some stream reaches, seeps, and springs would recover from trampling and soil compaction. There would be appropriate erosion control measures taken during construction.

Water crossings at uncontrolled points (points other than at paved low-water crossings or on already established roads) could break down established stream banks, accelerate erosion, and contribute to headcutting inside drainages. This could lead to increased sedimentation in local segments and eutrophication in areas immediately adjacent to crossing locations.

Cultural Resources

Archeological Resources

Archeological resources would be preserved and protected. Restrictions on trail development would reduce impacts to archeological sites. Expanded park operations and increased visitation in concentrated areas could negatively impact known resources and sites. Minor impacts to previously unknown archeological resources could be caused by limited development in the grazing area.

Ethnographic Resources

Ethnographic resources would be managed for traditional practices. Restriction on trail development would reduce potential impacts to ethnographic resources. Expanded park operations and increased visitation in concentrated areas could negatively impact known resources and sites. Natural resource protection, the introduction of native ungulates in the grazing area, and prairie enhancement activities may increase the frequency and availability of natural resources that are determined to be ethnographic resources. Development in the Grazing Area could impact previously unidentified ethnographic resources.

Historic Resources

Select historic resources would be protected through restoration, rehabilitation and preservation; others would be stabilized. Restoration of some historic plantings or agricultural crops in the Fox Creek bottomland would not be extensive, yet would enhance the interpretation of the cultural landscape. The open character of the cultural landscape would be protected by reducing visual impacts associated with gas and oil operations, controlling trail development, and limiting motorized traffic. Museum collections and archives would be stored in several locations in rehabilitated historic structures in the Ranch Operations Area. Maintaining museum collections at a variety of locations would impact accessibility to the collections. The museum collections would be managed according to NPS preservation standards.

There would be some loss of historic fabric, as those resources not chosen for preservation, rehabilitation, or stabilization would be documented and allowed to deteriorate. The stabilization of certain historic resources would provide some protection of features of the cultural landscape, but may result in deterioration of other resources through weather and erosion, and through the impact of grazers. Maintaining visitor, administrative, and maintenance facilities in the Ranch Operations Area would preserve some historic structures through adaptive use, although some historic fabric may be lost. The sensory and physical impacts of visitor and vehicular traffic at the headquarters area would remain high, and there would be a high potential for negative impacts to the historic resources. Depending upon the conclusions of inventories and evaluations, removing some stock ponds in the Grazing Area may eliminate elements of the historic cultural landscape. The location of animal management facilities in the Grazing Area may impact the viewshed of the cultural landscape.

Socioeconomic Environment

The impacts of Alternative D are very similar to those described for the Preferred Alternative, except in the following areas.

Regional land use would experience a very minor change. The majority of preserve acreage would be designated as bison grazing, and cattle grazing would be restricted to a smaller portion of the preserve. Agricultural use in the region would experience only a very minor change, as cattle grazing would be restricted to a small portion of the Grazing Area. This smaller area within the Grazing Area would be set aside for livestock operations, and for agricultural development. The decrease in regional agricultural output, however, would be very minor. The decreased emphasis on agricultural operations would likely result in a very small decrease in the number of employees associated with the agricultural operations, but this would be more than off-set by increased employment in the area of visitor services.

Visitor Services/ Visitor Use

Visitors would have access to and enjoyment of much of the scenery of the preserve. Some dispersed backcountry camping would be available to visitors and solitude would be available.

The bottomland tallgrass prairie restoration area would be accessible to visitors. Visitors could experience existing cultural resources in a historic or ranch setting with adaptively used buildings. Some historic orchards, plantings, and gardens would be replanted and available to the visitor. A variety of visitor experiences would be available.

Interpretation and education would focus on the tallgrass prairie ecosystem and subsequent human interaction with the prairie, including both American Indian and ranching themes. Bison would occupy a large part of the preserve. Traditional cattle operations would be accessible near the historic ranch buildings and in the core visitor use areas. Demonstrations of ranch activities would provide some of the recreational as well as interpretive and educational opportunities at the preserve.

During periods of prescribed fire management activities, visitors would be excluded from certain portions of the preserve. Visitor safety and comfort would be enhanced by a centralized public transportation system.

Visitors with disabilities would be accommodated through programming and facility design in accordance with the American with Disabilities Act.

Sanitation and public health would be enhanced through the development of appropriate facilities. During periods of high visitation, visitor densities in the ranch headquarters area and other areas of the preserve may be high. Facilities would be designed to reduce visitor impacts to the resources. Visitor use limits would be established to reduce impacts to the resources and enhance visitor experiences.

Visitor safety would be ensured through adequate staffing, adherence to prescribed guidelines, improved infrastructure, and enhanced emergency response capabilities.

Other Impacts

Cumulative Impacts

Cumulative Impacts are expected to be the same as for the preferred alternative.

Irreversible/ Irretrievable Commitment of Resources

Even with mitigation measures, some historic fabric would be lost as the result of adaptive use and restoration and stabilization activities. Some resources would be allowed to deteriorate and would be lost. Expenditure of funds to implement this alternative would be an irreversible commitment of monetary resources.

IMPACTS OF ALTERNATIVE E

In the following discussion, reference may be made to one or more of the management areas identified for this alternative: Native Ungulate Management Area, Demonstration Areas, Cultural Area, and Development Area. Please see Figure 9 for a map showing the location of these areas.

Natural Resources

Vegetation

The prairie landscape and the associated processes responsible for its development would be the major focus of this alternative. Prairie vegetation would tend toward greater diversity under the varying fire regimes, grazing patterns, and grazer concentrations. Early spring forbs and annuals would have greater expression.

The brome would be removed and prairie species would be restored along Fox Creek bottomlands. Exotic species (noxious weeds) would be controlled. Riparian vegetation would be allowed to recover and would be protected, as would the vegetation associated with springs and seeps. Some limited impacts to vegetation could occur due to low impact visitor activities: off-trail walking could trample vegetation and the lack of new trails and maintenance could encourage such activity. However, the lack of trail development and the rehabilitation of existing roads also would result in vegetative recovery in many areas.

Wildlife

The restoration of bison as the grazer of choice may encourage use by other native grazers, due to the lighter stocking rate, which would result in varying heights of grasses and different grazing patterns. The varying fire regimes would allow increased habitat for nesting birds, small mammals, and insects.

Sediment transport, erosion, and nutrient loads in sensitive aquatic resources would be reduced due to access restrictions and the restoration of riparian areas. Silt intolerant fish species may increase due to reduced animal stocking rates and reduced sediment loading of streams.

Threatened and Endangered Species

Surveys and monitoring efforts would be issue-driven and would not specifically target species of concern. Certain actions proposed under this alternative could result in increased runoff to area streams, thereby increasing sedimentation and degrading habitat necessary for the Topeka shiner and the cardinal shiner. Any such action would be carefully planned to minimize the opportunity for runoff. Appropriate mitigation measures would be applied. The National Park Service would consult with the U.S. Fish and Wildlife Service before initiating any action that would potentially impact the Topeka shiner (as required by Section 7 of the Endangered Species Act).

Although the biological assessment was not based on this Alternative E, the National Park Service believes that the basic determinations (i.e., "findings") would be valid for this alternative. This belief would be discussed and verified with the U.S. Fish and Wildlife Service prior to signing any record of decision based on Alternative E.

Air Quality

Management actions would not be expected to degrade the existing air quality of the preserve. However, increased vehicle traffic from visitation may result in limited impacts to air quality in and around parking areas. The air quality would be impacted by several short duration releases of particulate materials as a result of the fire management program. Ambient dust may increase during construction, rehabilitation, and maintenance activities.

Water Quality

Reduced stocking levels of grazers may result in less animal waste runoff during storm events, and lower coliform levels and nutrient concentrations. The sedimentation rates may be lower due to restriction of grazers from sensitive aquatic resources. Vegetation in some stream reaches, seeps, and springs would recover from trampling and soil compaction. Construction affecting water resources would be minimal under this alternative, but where such actions are initiated, there would be appropriate soil erosion measures taken.

Water crossings at uncontrolled points (points other than at paved low-water crossings or on already established roads) could break down established stream banks, accelerate erosion, and contribute to headcutting inside drainages. This could lead to increased sedimentation in local segments and eutrophication in areas immediately adjacent to crossing locations.

Cultural Resources

Archeological Resources

Archeological resources would be preserved and protected. Restrictions on infrastructure development would reduce impacts to archeological sites. Expanded park operations and increased visitation in concentrated areas could impact known resources and sites. Impacts on previously unknown archeological resources could be caused by development of visitor services and support facilities.

Ethnographic Resources

Ethnographic resources would be managed. Restrictions on infrastructure development would reduce impacts to ethnographic sites. Expanded park operations and increased visitation in concentrated areas could impact known resources and sites. Natural resource protection, the introduction of native ungulates, and prairie activities may increase the frequency and availability of natural resources determined to be ethnographic resources. Impacts on previously unidentified ethnographic resources could be caused by development of visitor services and support facilities.

Historic Resources

A few, select historic resources, chosen as integral to the interpretation goals of the preserve, would be preserved and protected; others useful for preserve operations would be rehabilitated. Restoration of historic agricultural crops in a small demonstration area in the Fox Creek bottomlands would not be as extensive as in the Preferred Alternative and Alternatives B, C, and D, yet would enhance interpretation of the cultural landscape. The open character of the cultural landscape would be protected by reducing visual impacts associated with gas and oil operations, controlling trail development, and limiting motorized traffic. Archival and curatorial management of museum collections would be provided in the Development Area, and would

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meet current NPS preservation standards. Placing visitor, administrative, and maintenance facilities in the Development Area would reduce the sensory and physical impacts of visitor and vehicular traffic at the ranch headquarters area and the school.

There would be some loss of historic fabric, as those resources not chosen for preservation and rehabilitation would be documented and allowed to deteriorate. There could be some loss of historic fabric from rehabilitated structures. Park operations, or increased visitation levels, in both vehicular and foot traffic, could impact historic materials. Depending upon the outcome of inventories and evaluations, removing some stock ponds and existing roads could remove elements of the cultural landscape. The location of animal management facilities in the Native Ungulate Management Area could impact the viewshed of the cultural landscape.

Socioeconomic Environment

The impacts of Alternative E are very similar to those described for the Preferred Alternative, except in the following areas.

This alternative would result in the greatest change in land use in the preserve area, as the majority of land would be converted from cattle grazing to managed tallgrass prairie with bison. A cattle operation would still be present on the preserve, but on a much smaller area. A small Agricultural Demonstration Area would be maintained and planted in traditional crops. A small Development Area containing the main visitor services and support facilities would be maintained. Although this would be a fairly significant change in preserve land use, from agricultural (cattle grazing) to non-agricultural (bison), the size of the preserve in relationship to the region indicates that the alternative would result in a very minor change to regional land use.

This alternative would have an impact on the level of regional agricultural output, because livestock and crop activities on the preserve would be limited to a smaller area than under current conditions. This decrease in regional agricultural output, however, would be very minor.

A decreased emphasis on agricultural operations on the preserve would likely result in a very small decrease in the number of employees associated with these agricultural operations. This decrease, however, would be outweighed by the increased employment associated with increased visitation.

New development on the preserve would be minimal, as existing buildings and structures would be used as much as possible. Any buildings not rehabilitated for use in preserve operations would be allowed to deteriorate. A small Development Area would contain the main visitor services and support facilities. No roads or trails would be developed outside of the ranch headquarters area.

Visitor Services/ Visitor Use

Visitors would have access to and enjoyment of much of the scenery of the preserve through limited development. A variety of experiences would be available. No overnight camping would be permitted. No developed trails would be available outside the historic ranch complex. Visitors would see fewer stock ponds and human-made pond structures.

Interpretation and education would focus on the tallgrass prairie ecosystem and human interaction with the prairie, including both American Indians and ranchers. Demonstrations of ranch activities would provide some of the recreational as well as interpretive and educational opportunities at the preserve.

The number of bison would be large and they would be found in a large area of the preserve, creating the possibility of conflicts with visitors. During periods of prescribed fires activity, visitors would be excluded from certain portions of the preserve. Visitor safety and comfort would be enhanced by a centralized public transportation system.

Visitors with disabilities would be accommodated through programming and facility design in accordance with the Americans with Disabilities Act.

Proper sanitation and public health would be provided through the development of appropriate facilities. During periods of high visitation, visitor densities may be high in the ranch headquarters area. Facilities would be designed to reduce visitor impacts to the resources. Visitor use limits would be established to reduce impacts to resources and enhance visitor experiences.

Visitor safety would be ensured through adequate staffing, adherence to prescribed guidelines, improved infrastructure, and enhanced emergency response capabilities.

Other Impacts

Cumulative Impacts

Cumulative Impacts are expected to be the same as for the preferred alternative.

Irreversible Commitment of Resources

Even with certain mitigation measures there may be some loss of historic fabric and resources through adaptive use and rehabilitation. Some resources would be allowed to deteriorate and would be lost. Expenditure of funds to implement this alternative would involve the irreversible commitment of monetary resources.

SECTION 5: CONSULTATION AND COORDINATION

COMPLIANCE WITH ENABLING LEGISLATION

The act establishing the preserve has several sections that have implications for, or directly relate to, consultation and coordination in the development of the draft GMP/EIS:

Section 1002(a)

- (4) the National Park Trust, which owns the Spring Hill Ranch, has agreed to permit the National Park Service-
 - (A) to purchase a portion of the ranch, as specified in the subtitle; and
 - (B) to manage the ranch in order to-
 - (i) conserve the scenery, natural and historic objects, and wildlife of the ranch; and
 - (ii) provide for the enjoyment of the ranch in such a manner and by such means as will leave the scenery natural and historic objects, and wildlife unimpaired for the enjoyment of future generations .

Section 1005

- (a) IN GENERAL - The Secretary shall administer the Preserve in accordance with this subtitle, the cooperative agreements described in subsection (f)(1), and the provisions of law generally applicable to units of the National Park System, including the Act entitled "An Act to establish a National Park Service, and for other purposes", approved August 25, 1916 (16 U.S.C. 1, 2 through 4) and the Act of August 21, 1935 (49 Stat. 666; 16 U.S.C. 461 et seq.).
- (b) APPLICATION OF REGULATIONS -With the consent of a private owner of land within the boundaries of the Preserve, the regulations issued by the Secretary concerning the National Park Service that provide for the proper use, management, and protection of persons, property, and natural and cultural resources shall apply to the private land.
- (e) UNIT OF THE NATIONAL PARK SYSTEM - The Preserve shall be a unit of the National Park System for all purposes, including the purpose of exercising authority to charge entrance and admission fees under section 4 of the Land and Water Conservation Fund Act of 1965 (16 U.S.C. 4601-6a).

Section 1005(g)

- (2) CONSULTATION.-In preparing the general management plan, the Secretary, acting through the Director of the National Park Service, shall consult with-
 - (A) (i) appropriate officials of the Trust; and
 - (ii) the Advisory Committee; and

- (B) adjacent landowners, appropriate officials of nearby communities, the Kansas Department of Wildlife and Parks, the Kansas Historical Society (sic), and other interested parties.

The National Park Trust (NPT)

Currently, all lands within the authorized boundary of the preserve are owned by the NPT. As required by the legislation establishing the preserve, the NPT has been consulted on and involved in each phase of the development of the draft GMP/EIS. Members of the NPT staff have been invited to and have attended many of the GMP work sessions; public open houses; and meetings with organizations, congressional delegations and American Indian tribes. The staff has had the opportunity to review drafts of planning documents and other documents, and to provide comment on them.

Presentations and briefing papers on the status of the planning effort have been provided to the NPT Board of Directors in January 1998, July 1998, February 1999, and July 1999. Also, they were afforded the opportunity to comment on documents including the preliminary alternatives, the draft preferred alternative, and the draft GMP/EIS. They have received the five newsletters and a number of other planning documents.

The Advisory Committee

The advisory committee has been consulted on all phases of the development of the GMP/EIS. In addition, the committee has been kept informed of the progress of the planning effort through briefing papers, newsletters, and through the receipt of various planning documents.

On December 10, 1997, the GMP team briefed the committee on the GMP process and schedule, project agreement, and draft Significance, Purpose, and Mission Statements. The team reviewed their work-to-date in areas of GIS, natural resources, cultural resources, and interpretation and education, including the draft Interpretation Themes and Visitor Experience Goals, and answered advisory committee questions. On February 6, 1998, a telephone conference call with the advisory committee and members of the GMP team was held to obtain committee input on the draft Significance, Purpose, and Mission Statements. On May 6, 1998, the GMP team members provided an update of the various program areas, presented the Enhancement and Sustainable Management Panel reports, and gave a presentation on the draft preliminary alternatives. On August 28, 1998, members of the GMP team and committee discussed the preliminary alternatives. On January 13, 1999, the committee received an overview of and discussed the draft preferred alternative. In October 1999, the committee received the draft GMP/EIS and was briefed on the anticipated schedule. At the October 27, 1999 meeting, the draft GMP/EIS was reviewed and the remaining steps in the planning process explained. On February 16, 2000, the committee was briefed on the public comment received and voted 8 yeas and 4 nays in support of the draft GMP/EIS.

Local Officials

Two rounds of meetings were conducted by representatives from the NPT and NPS. The first round was held to establish communications, to discuss the GMP process and schedule, and to answer any questions. Meetings were held with the Strong City Council on April 14, 1998 and with the Cottonwood Falls City Council on April 20, 1998; no major comments were received. A meeting was held with Chase County Board of County Commissioners on May 1, 1998. At that

meeting, two of the three commissioners expressed their support for a small bison presence. Rumors of a wolf reintroduction were addressed.

A second round of meetings was held by NPT and NPS to update the officials on the planning process and brief them on the draft preferred management alternative. On January 25, 1999, a meeting was held with the Chase County Board of County Commissioners. The board recommended that the team consider the location of enclosures for bison herds, preferably not adjacent to another property owner. On February 1, 1999, in a meeting with the Cottonwood Falls City Council, the City Attorney expressed concern about the proposals to plant historic crops and restore bottomland prairie near Fox Creek. He felt that, based on past flood histories, the restoration could be significantly impacted by a future flood event. On February 9, 1999, in a meeting with the Strong City Council, the Mayor remarked to the Council about the draft preferred alternative, i.e. the economic development potential for local communities, public involvement in the planning process, and good overall plan. During the first week of December 1999, copies of the draft GMP/EIS were transmitted to each member of the Chase County Board of County Commissioners and the Mayors and City Council members of Strong City and Cottonwood Falls. No requests were received, as offered, to attend any upcoming meetings to discuss and answer questions.

Kansas Department of Wildlife and Parks

In accordance with the preserve's enabling legislation, the Kansas Department of Wildlife and Parks (KDWP) has been consulted during the preparation of the draft GMP/EIS.

On July 17, 1997, GMP team members met with the KDWP in an initial scoping session. No major issues were identified, but KDWP expressed concerns with current management practices (grazing and fire) and their potential effects on wildlife populations. They expressed an interest in staying involved in the planning process. On August 5, 1997, portions of the GMP team discussed fisheries issues with KDWP staff members.

On June 2, 1998, members of the GMP team met with a representative of KDWP to discuss the preliminary alternatives that had been provided earlier by mail. Also discussed were the Topeka shiner, gravel mining, and deer management.

On February 10, 1999, GMP team members met with a representative of KDWP to discuss the draft preferred alternative and the problems associated with reintroducing large ungulates.

On December 1999, GMP team members met with KDWP. Steve Sorenson as spokesperson, expressed the following concerns: the limitations of the size of the recommended bison reintroduction area; the estimated cost of the visitor center which, as written, appears to be \$400/sq ft.; and that, as part of the bison plan, the NPS will have to make a request to KDWP for bison reintroduction. They also had concerns over requests from the public to introduce elk and pronghorn antelope, citing their past efforts and what they viewed as limitations. Mr. Sorenson said these views would be included in their response letter on the GMP.

Kansas State Historical Society

Please see "Compliance Regarding Cultural Resources," below.

CONSULTATION AND COORDINATION

Financial Analysis

As required by enabling legislation, a financial analysis was prepared parallel to the GMP process and is available through the preserve headquarters.

COMPLIANCE WITH KEY FEDERAL AND STATE LAWS, EXECUTIVE ORDERS, AND OTHER REGULATIONS

In implementing the GMP, the NPS would comply with all applicable laws and executive orders, including those listed below and in Appendix 5. Formal and informal consultation with the appropriate federal, state, and local agencies has been conducted in the preparation of this document.

The draft GMP/EIS was on public review for 60 days. Revisions to the draft GMP/EIS have been made based on public input and on evolving knowledge about the preserve and its resources. A 30-day no-action period will commence when this final GMP/EIS is released to the public. The 30-day period will begin on the date that the Environmental Protection Agency's notice of availability appears in the *Federal Register*. At the conclusion of the no-action period, the NPS anticipates a Record of Decision will be prepared to document the selected alternative and set forth stipulations for implementation of the GMP. Approval of the Record of Decision will complete the requirements of the National Environmental Policy Act. The Record of Decision will be published in the *Federal Register* and in the *Chase County Leader-News*.

Compliance Regarding Cultural Resources

The NPS is mandated to preserve and protect the cultural resources it manages by the act of August 25, 1916, and through specific legislation such as the Antiquities Act of 1906, the National Environmental Policy Act of 1969, and the National Historic Preservation Act of 1966 as amended. Cultural resources would be managed in accordance with these acts and with Chapter V of the NPS Management Policies, 1988; Director's Order-28, Cultural Resources Management (DO-28); and other relevant policy directives, such as the NPS Museum Handbook, Parts I, II, and III; the NPS Manual for Museums; and NPS-6, Interpretation and Visitor Services Guidelines.

Section 106 of the National Historic Preservation Act of 1966 as amended (16 USC 470, et seq.) requires that federal agencies having direct or indirect jurisdiction take into account the effect of undertakings on National Register properties and allow the Advisory Council on Historic Preservation (ACHP) an opportunity to comment. Section 110(f) of the act requires that Federal agencies exercise a higher standard of care when considering undertakings that may directly and adversely affect NHLs. The law requires that agencies "to the maximum extent possible, undertake such planning and actions as may be necessary to minimize harm to such landmarks." Toward that end, the NPS would work with the Kansas State Historic Preservation Office (SHPO) and the ACHP to meet requirements of 36 CFR 800 and the September 1995 programmatic agreement among the National Conference of State Historic Preservation Officers and the NPS. This agreement requires the NPS to work closely with the SHPO and the ACHP in planning for new and existing NPS areas. The June 17, 1999 revised Section 106 regulations do not substantially change the National Park Service established procedures for compliance and consultation at the preserve.

On June 19, 1997, the ACHP was sent a notice of initiation of work and potential to affect historic properties. They responded on July 17, stating interest in assisting in the planning process. On January 5, 1998, they were sent a notice of the final Project Agreement. On May 8, 1998, they were sent a notice of the preliminary alternatives and on January 22, 1999, they were

sent a notice of the draft preferred alternatives and a copy of "Public Response" report. The final draft GMP/EIS was sent to Advisory Council on November 10, 1999. No written comments were received.

On June 19, 1997, the GMP team made the first contact with the SHPO by sending a notice of initiation of work, and potential to affect historic properties. On July 17, members of the GMP team met with SHPO staff and discussed the preserve's enabling legislation and provisions, the GMP planning process and status, tribal consultation, cultural resources of the preserve, status of information needs and collection, ongoing and planned research projects, integration with GIS database, Native American Graves Protection and Repatriation Act of 1990 (NAGPRA), Section 106 Compliance, and SHPO and ACHP involvement. On January 5, 1998, the SHPO was sent a notice of the final Project Agreement and on May 8, 1998, the office was sent a notice of the preliminary alternatives. On June 4, the team and SHPO staff met to discuss the preliminary alternatives, compliance, on-going studies, resource types, current leases, and the ownership of the property. On January 22, 1999, a notice regarding the draft preferred alternative and "Public Response" report was sent to SHPO. On February 11, the team and SHPO staff met to discuss the draft preferred alternative, issues of potential demolition of structures, the need to determine period and levels of significance, period of interpretation, life of oil and gas leases, development issues, landscape features, and archeology sites. The SHPO requested copies of the legislative history, and the opportunity to review drafts of the Historic Resource Study (HRS) and Cultural Landscape Report (CLR) when submitted. On February 18, the team received a response from the SHPO regarding issues raised by the discussion of the draft preferred alternative, in particular the possible removal of structures and the need to determine a period of significance. The SHPO requested submittal of the draft HSR and CLR Part I for review. A final draft GMP/EIS was sent to the Kansas SHPO on November 10, and a subsequent meeting held on December 2, 1999. The SHPO staff were supportive of the document. They liked the discussion of the need to address 20th century resources, to undertake archeological inventories as needed, the recognition of ethnographic resources, and consultation. The meeting addressed the status of the HRS and CLR, and the Kansas SHPO's experiences in preservation theory and its evolution. Also discussed were implementation planning after completion of the GMP, and issues related to the development of Comprehensive Interpretation Plan, Bison Management Plan, Fire Management Plan, and Resource Management Plan.

The National Historic Preservation Act of 1966, as amended, also provides for a number of programmatic exclusions for specific actions that are not likely to have an adverse effect on cultural resources. These actions may be implemented without further review by the SHPO or ACHP, provided that NPS internal review finds the actions meet certain conditions. Undertakings, as defined in 36 CFR 800, not specifically excluded in the programmatic agreement must be reviewed by interested parties, the SHPO, and the ACHP before implementation. Throughout the process there will be early consultation on all potential actions.

The GMP/EIS includes actions that require review and comment by the SHPO and the ACHP. The SHPO will be consulted during the development of the HRS and CLR, as part of the process of updating the LCS and the CLI, and during the development of other reports that are part of the implementation of the preferred alternative. The Kansas SHPO will be consulted as part of the development or rehabilitation of historic structures or landscapes. Archeological surveys would be a part of any park development work. Consultation with associated groups will be undertaken

prior to action on cultural resources that are also ethnographic resources, regardless of their National Register status.

Prior to any ground-disturbing action by the NPS, a professional archeologist will determine the need for archeological inventory or testing evaluation. Any such studies will be carried out in conjunction with construction and will meet the needs of the SHPO, as well as the NPS. Any large-scale archeological investigations will be undertaken in consultation with the SHPO.

Section 110 of the National Historic Preservation Act requires the NPS to identify and nominate to the National Register of Historic Places all resources under its jurisdiction that appear to be eligible. Structures or cultural landscape features chosen for abandonment or removal would be evaluated for National Register eligibility, if they have not yet been evaluated. The Kansas SHPO would be contacted for review and comment.

NPS historic areas are automatically listed on the National Register upon their establishment by law or executive order.

Consultation with American Indian Tribes

American Indian tribes with cultural affiliation to the preserve will be meaningfully involved in ongoing decisions regarding planning, interpretation, and resource management. Tribal concerns and issues will be fully considered in the decision-making process, in a government-to-government relationship. Resource information will be open and accessible to American Indian tribes, including environmental, social, and economic information about a proposed action and its probable effects.

Management decisions related to planning, interpretation, research, and cultural and natural resource management are all covered by laws, regulations and policies calling for a review of impacts to resources and the need for consultation with all affected American Indian tribes. NAGPRA requires park units to consult with American Indian governments and religious leaders regarding the disposition of American Indian human remains, funerary objects, sacred objects, and objects of cultural patrimony with which they can demonstrate lineal descent or cultural affiliation. The National Environmental Policy Act of 1969, as amended, requires that tribes be consulted concerning planned actions, and be invited to participate in the project scoping process.

The National Historic Preservation Act of 1966, as amended, requires that federally-funded projects identify affects on cultural properties, and that American Indian tribes be invited to consult on preservation activities when an undertaking or project affects Indian lands or properties of historic value to an Indian tribe on non-Indian lands. Section 304(a) of this act makes it possible for agencies to maintain confidentiality of information obtained during consultation regarding the location of sensitive historic resources. A systematic program of inventory, and consultation might identify Traditional Cultural Properties eligible for National Register listing.

In fulfillment of the American Indian Religious Freedom Act of 1978, the preserve provides for the protection and appropriate use of sites associated with traditional religions, and the use and possession of sacred objects. The collection of information and consultation are also addressed in

the following laws and policies: Archeological Resource Protection Act of 1979, if issuance of a permit will result in harm to or destruction of a site that has importance to that community; NPS Native American Relationships Management Policy, 1987; DO-28 (Cultural Resources Management); NPS Management Policies, 1988; United States Department of the Interior, Executive Order 3175, November 8, 1993; Executive Order 12898, issued by President Clinton on February 11, 1994; and Executive Memorandum, issued by President Clinton on April 29, 1994.

In May 1997, a first notice was sent to the culturally-affiliated tribes regarding the planning project; these tribes included the Wichita and Affiliated Tribes, the Osage Nation of Oklahoma, the Pawnee Nation of Oklahoma, and the Kaw Nation of Oklahoma. In June 1997, the planning team members met at various times with the Wichita and the Kaw, and discussed planning issues, the GMP process, archeology and ethnographic resources, ongoing research work, NAGPRA, and the possibility of including bison at the preserve. The Wichita discussed the importance of Florence A flint and expressed their interest in being involved in archeological work at the preserve and in participating in the planning process. The Kaw discussed the history of the Kaw presence in the area of the preserve. A similar meeting was held in July with the Pawnee. In addition to the topics noted above, the Pawnee discussed the need to consult with other tribes (Potowatomie, Sac & Fox, etc.).

In December 1997, a notice of the final Project Agreement was sent to the Kaw, Osage, Pawnee, and Wichita. In February 1998, a notice of the final Project Agreement and information packets were sent to the Iowa Tribe of Kansas and Nebraska, the Sac and Fox Nation of Oklahoma, the Prairie Band of Potowatomie, the Iowa Tribe of Oklahoma, and the Sac and Fox Nation of Missouri; the team offered to meet with them. The tribes requested no meetings.

In May 1998, the notice of preliminary alternatives was sent to the Kaw, Osage, Pawnee, Wichita, Sac and Fox Nation of Oklahoma, Prairie Band of Potowatomie, Iowa Tribe of Oklahoma, Iowa Tribe of Kansas and Nebraska, and Sac and Fox Nation of Missouri. In that same month, members of the planning team met with the Wichita, Pawnee, and Kaw. Discussions included ways the tribes could be involved in interpretation programs at the preserve. The Pawnee raised the question: Why were there no Native Americans on the Advisory Committee?

In January 1999, a notice of the draft preferred alternative was sent to the Kaw, Osage, Pawnee, Sac and Fox Nation of Oklahoma, Prairie Band of Potowatomie, Iowa Tribe of Oklahoma, Iowa Tribe of Kansas and Nebraska, and Sac and Fox National of Missouri.

On March 25 and 26, 1999, members of the team met with the Kaw and Pawnee respectively. At the meeting with the Kaw, much of the discussion centered on Native American Graves Protection and Repatriation Act of 1990 (NAGPRA) and sacred sites protection. At the meeting with the Pawnee, the team expressed a need for written comments on the draft preferred alternative. A second meeting with the full tribal council was scheduled for March 30 and was attended by the preserve superintendent. No major concerns with the draft preferred alternative were expressed, though the Pawnee did express interest in being involved with activities at the preserve.

Opportunities for further consultation will be ongoing; the intent is for open communications for the life of the preserve.

Despite repeated attempts by mail and telephone, meetings could not be set up with the Osage. In addition, none of the historically associated tribal groups responded to the letters or demonstrated an interest in meeting with the planning team.

The final draft GMP/EIS was mailed to the four culturally affiliated tribes (Kaw, Pawnee, Osage and Wichita) in late November 1999, along with an invitation by the GMP team to meet and discuss the document. Final drafts were likewise sent to the Kickapoo Tribe of Kansas, the Iowa Tribe of Kansas and Nebraska, the Iowa Tribe of Oklahoma, the Sac and Fox Nation of Oklahoma, the Sac and Fox Nation of Missouri, and the Prairie Band of Potawatomi; all were invited to comment on the document. None of the tribes responded or expressed concern with the material. None requested a meeting.

Tribes Consulted

Iowa Tribe of Kansas and Nebraska
 Iowa Tribe of Oklahoma
 Kaw Nation of Oklahoma
 Kickapoo Tribe of Kansas
 Osage Nation of Oklahoma
 Pawnee Tribe of Oklahoma
 Prairie Band of Potawatomi
 Sac and Fox Nation of Missouri
 Sac and Fox Nation of Oklahoma
 Wichita and Affiliated Tribes

Compliance Regarding the Social Environment

The NPS recognizes its obligations to provide public facilities that are accessible to and usable by all segments of the visitor population, regardless of ability. Accessibility to and use of the preserve facilities by visitors with physical and learning disabilities will continue to be provided in conformance with Architectural Barriers Act of 1969 (42 USC 4151 et seq.); Rehabilitation Act of 1973 (29 USC 701 et seq.); Americans with Disabilities Act of 1990 (Public Law 101-336, 104 Stat. 327); and any other applicable laws and regulations. To the greatest extent possible, commensurate with their abilities, visitors with disabilities will be able to enjoy the preserve using the same facilities and programs as the able-bodied; sensitive park planning and design will facilitate this goal. Consultation and coordination of accessibility considerations will be developed with organizations whose members have disabilities.

Currently, some areas and structures of the preserve are more accessible than others. The degree of accessibility is limited by the age, design, and location of structures and facilities. Some new facilities will be accessible as well as some existing facilities that may experience restoration or rehabilitation as ADA recognizes that some historic structures may not be made completely accessible without irretrievably harming the resource. This also applies to employee work areas.

Programmatic access for visitors with sensory- and learning-impairments will be considered in all planning, new construction, and rehabilitation.

Compliance Regarding Natural Resources

Endangered Species Act

Section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. § 1531 *et seq.*) requires all federal agencies to consult with the U.S. Fish and Wildlife Service (FWS) to ensure that any action authorized, funded, or carried out by the agency does not jeopardize the continued existence of listed species or critical habitat.

Informal consultation with the U.S. Fish and Wildlife Service was initiated by a letter dated June 27, 1997, to determine if any endangered or threatened species existed in or near the preserve. A response, dated July 11, 1997, stated that certain proposed endangered and threatened species and species of concern may occur in the area of the preserve (see Appendix 6 for a copy of the response).

To date, the Topeka shiner, a federally-listed endangered species, has been found in two of the unnamed tributaries on the preserve. Therefore, the National Park Service prepared a biological assessment as required by 16 U.S.C. § 1536 (c)(1) and submitted the assessment to the U.S. Fish and Wildlife Service. The FWS provided its concurrence with the determinations of the biological assessment in a memorandum dated April 5, 2000 (see Appendix 6 for a copy of the memorandum).

The NPS would continue to consult with the FWS regarding the need for future threatened and endangered species surveys before beginning construction or rehabilitation activities. If such species were found, the NPS would develop and implement measures in consultation with the FWS to ensure that protected species would not be affected.

As required by NPS Management Policies, the NPS would cooperate with the state of Kansas to ensure protection of state-listed species in the park.

Floodplain Management and Protection of Wetlands

Executive Orders 11988 (Floodplain Management) and 11990 (Protection of Wetlands) direct federal agencies to enhance floodplain and wetland resources, to avoid development in the floodplains and wetlands whenever there is a practicable alternative, and to avoid to the extent possible adverse impacts associated with the occupancy or modification of floodplains or wetlands. At the request of the NPS, the NPT has requested that Natural Resources Conservation Service (NRCS) survey the preserve to delineate the wetland areas.

Farmland Protection Policy Act of 1981 (P.L. 97-98; 7 USC 4201 *et seq.*)

This act seeks to minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmland to non-agricultural uses. It intends to ensure federal programs are administered in a manner that, to the extent practicable, will be compatible with state, local government, and private programs and policies to protect farmland. Implementing regulations associated with the act require agencies to coordinate with the NRCS to evaluate the extent to which proposed actions and policies could affect farmland. The NPS consulted with the NRCS to determine the applicability of the requirements of the act to actions proposed in the alternatives.

Some of the development proposed in the alternative would be located in areas that include lands considered to be prime farmland. However, the development may not actually be located on the

prime land. It is not possible at this general level of planning to determine with certainty if prime farmland would be converted to a non-agricultural use. Decisions about the exact location of development would be made as part of future, site-specific planning. If at that time, it is determined that prime farmland would be impacted by the development, the NPS would initiate the analysis necessary to comply with Farmland Protection Policy Act regulations.

Please see Appendix 5 for a full list of laws, regulations, and executive orders with which this planning effort and resulting implementation activities will comply.

LIST OF AGENCIES AND ORGANIZATIONS TO WHOM THIS DOCUMENT HAS BEEN SENT

FEDERAL AGENCIES/ORGANIZATIONS

- Advisory Council on Historic Preservation
- Environmental Protection Agency
- Fish and Wildlife Service, Kansas Field Office
- Kansas Congressional Delegation
- Natural Resource Conservation Service

TRIBES

- Iowa Tribe of Kansas and Nebraska
- Iowa Tribe of Oklahoma
- Kaw Nation
- Kickapoo Tribe of Kansas
- Osage Nation of Oklahoma
- Pawnee Tribe of Oklahoma
- Prairie Band of Potowatomie
- Sac and Fox Nation of Missouri
- Sac and Fox Nation of Oklahoma
- Wichita and Affiliated Tribes

STATE AGENCIES/ORGANIZATIONS

- Kansas Biological Survey
- Kansas Corporation Commission, Oil and Gas Conservation Division
- Kansas Department of Agriculture
- Kansas Department of Health and Environment
- Kansas Department of Transportation
- Kansas Department of Wildlife and Parks
- Kansas Division, Travel and Tourism
- Kansas Division of Water Resources
- Kansas Geological Survey
- Kansas State Historic Preservation Officer
- Kansas State Historical Society
- Office of the Governor
- State Representative, District 70
- State Senator, District 17

OTHER AGENCIES AND ORGANIZATIONS

- National Park Trust
- National Parks and Conservation Association
- Nature Conservancy, Kansas State Director
- Kansas Farm Bureau
- Kansas Livestock Association
- Chase County Board of County Commissioners
- Mayor and City Council, Cottonwood Falls
- Mayor and City Council, Strong City
- Dakota Zoo
- Grassland Heritage Foundation
- Audubon of Kansas
- Kansas Horse Council
- The Wildlife Society, Kansas Chapter
- National Wildlife Federation
- Chase County Farm Bureau Association
- Sierra Club, Kansas Chapter

OTHER ENTITIES

- Adjacent Landowners
- Enhancement Panel Participants
- Sustainable Management Panel Participants
- Tallgrass Prairie National Preserve Advisory Committee

PUBLIC AND AGENCY REVIEW

The *Draft General Management Plan/Environmental Impact Statement* (DGMP/EIS) for the Tallgrass Prairie National Preserve was available for public review from November 26, 1999 to January 25, 2000. Responses were received by mail, Internet, and at four public open houses. Written comments were received from about 70 individuals, agencies, and organizations. About 70 people attended the open houses.

This section summarizes and responds to substantive comments on the DGMP/EIS that were received from the public. The Council on Environmental Quality defines substantive comments as comments that:

- (A) question, with reasonable basis, the accuracy of information
- (B) question, with reasonable basis, the adequacy of environmental analysis
- (C) present reasonable alternatives other than those presented in the document
- (D) cause changes or revisions in the proposal

In other words, substantive comments raise, debate, or question a point of fact or policy. Comments in favor of or against the proposed action or alternatives, or those that only agree or disagree with NPS policy are not included.

While public input is fundamental to responsible planning, it is only one tool that decision-makers use to determine an appropriate course of action. The laws, regulations, and policies that govern the National Park Service and Tallgrass Prairie National Preserve also must be considered, as does the base of knowledge about the resources of the preserve and the professional judgement of those who are charged with management of the preserve. The NPS must respond to the whole of public input and must consider the merits of comments received from a diverse public and other agencies in the context of resource information, laws and mandates, and sound management practices.

Many commentators made suggestions or asked about matters that are usually not addressed in general management plans, but rather in follow-up implementation plans. The National Park Service appreciates these comments, and will use them when implementation planning begins.

Agency and Organization Comments

Written comments from agencies, organizations, and business interests are reprinted on the following pages. National Park Service responses to those comments are included. Citizen comments follow the organization comments.

Comments

Responses

JAN-24-2000 10:40

P. 02/05



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VII
901 N. 5TH STREET
KANSAS CITY, KANSAS 66101

(64)

received
JAN 13 2000

Mr. William W. Schenk
Regional Director
National Park Service
1709 Jackson Street
Omaha, NE 68102-2571

re: Review of the Tallgrass Prairie National Preserve Draft General Management Plan
and Environmental Impact Statement

Dear Mr. Schenk:

The Environmental Protection Agency has reviewed the Draft General Management Plan and Environmental Impact Statement (Draft GMP/EIS) for the Tallgrass Prairie National Preserve located in Kansas. Our review is provided pursuant to the National Environmental Policy Act (NEPA) 42 U.S.C. 4231, Council on Environmental Quality (CEQ) regulations 40 C.F.R. Parts 1500-1508, and Section 309 of the Clean Air Act (CAA).

The National Park Service (NPS) proposes to implement a General Management Plan to guide park management decisions for the next 10-15 years. The Draft GMP/EIS explores a range of alternatives that involve changes to the operation and maintenance of land owned by the National Park Trust which will be managed by the NPS through a cooperative agreement. The proposed action focuses on the integrated management of the natural and cultural resources of the preserve based on the idea that the preserve is a unit in the National Park System established to preserve, protect, and interpret for the public a remnant of the once vast tallgrass prairie ecosystem, and that this remnant exists today because of a complex history of interaction between people and land.

Based on our overall review we have assigned the DEIS a rating of LO - Lack of Objections. A copy of EPA's rating system criteria is enclosed. EPA has, however, identified several areas in which the Final General Management Plan and Environmental Impact Statement (Final GMP/EIS) might be improved:

RECYCLE ♻️

Comments

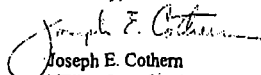
JAN-24-2000 10:40

P.03/05

1. We found the Cumulative Impacts Section to be the weakest part of the document. In the Final GMP/EIS, preparers should expand that section to include the necessary elements outlined in 40 CFR 1508.7, which defines "cumulative impacts." The Final GMP/EIS should include a discussion of other past, present, and future activities within the area (and their impacts upon the same resources that might be impacted by the proposed project alone). The Council on Environmental Quality's '97 Report, "Considering Cumulative Effects Under the National Environmental Policy Act" and EPA's May 1999 guidance, "Consideration on Cumulative Impacts in EPA Review of NEPA Documents," might also be helpful in developing an appropriate discussion of cumulative impacts. A copy of each is provided as enclosures to this letter.
2. Another area of the Draft GMP/EIS which needs further explanation is the conditions under which cattle grazing and ranching activities will continue in Section 2, Alternatives and Proposed Action. For example, the number of cattle and/or bison that will be allowed to graze on the preserve and more detailed information on where and when they will be allowed to graze. This information is needed to assess direct, indirect, and cumulative impacts to the natural landscape. This information will also assist the public in understanding the role that grazing plays in the management of native grass species, and will also facilitate a more complete analysis of potential non-point source pollutant contributions within the watershed.

EPA commends the National Park Service for their extensive efforts in interagency coordination, seeking public participation, and for including a wide range of alternatives. We appreciate working with your staff on this general management plan, and appreciate their prompt follow-up on providing additional materials with which to assist our review. Please send one copy of the Final GMP/EIS to this office at the same time it is officially filed with our Washington, D.C. office. If you have any questions, please contact Royce B. Kemp at (913)551-7551.

Sincerely,


Joseph E. Cothran
NEPA Team Leader

Enclosure(s)

cc: Michael Madell, NPS
Pearl Young, EPA - OFA

Responses

#64 - United States Environmental Protection Agency

1. Few cumulative impacts are anticipated from actions described in this plan. However, text has been added to the appropriate sections of the environmental consequences discussion to further clarify possible cumulative affects. Cumulative impacts would also be discussed as part of future site-specific or project-specific environmental analysis that tier from this document.
2. These details will be discussed in the Bison and Vegetation Management Plans to be prepared after approval of this General Management Plan.

Comments

Responses

FEB-22-2000 09:36

TALLGRASS PRAIRIE NPRES

P.02/02



United States Department of the Interior

FISH AND WILDLIFE SERVICE
 Kansas Field Office
 715 Houston Street, Suite E
 Manhattan, Kansas 66502-6172



February 17, 2000

MEMORANDUM

To: Superintendent, Tallgrass Prairie National Preserve, Cottonwood Falls, KS

From: Field Supervisor, Kansas Field Office, Manhattan, KS

Subject: Review of the Draft General Management Plan and Environmental Impact Statement for Tallgrass Prairie National Preserve, Kansas.

The U.S. Fish and Wildlife Service, Kansas Field Office has reviewed the subject document and has the following preliminary comments. Official comments will be provided through the our Regional Environmental Officer or through our Washington Office of Environmental Policy and Compliance.

We believe the draft management plan and Environmental Impact Statement is generally well done and has addressed most of the important issues with the proposed project.

The Fish and Wildlife Service (FWS) is available to coordinate further with the Park Service on research efforts to guide management decisions regarding restoration of Topeka shiner habitat under the preferred alternative.

1. If it is determined that present management action or planned management actions may adversely affect the Topeka shiner the National Park Service (NPS) should request formal Section 7 consultation with the Service. If there will be no impact, there is no need for further consultation. To help make this determination the NPS should conduct and submit to the FWS a biological assessment, pursuant to Section 7 (c) of the Endangered Species Act to determine the effects of the proposed project on listed species. Your final Environmental Impact Statement should include the results of this biological assessment. Specific guidance and policy regarding preparation of a biological assessment may be found in 50 CFR 402.12. At your request our office will provide technical assistance to the NPS during development of this biological assessment.

For technical assistance please contact me at 785 539-3474 ext.105 or Dan Mulhern at ext.109.

We appreciate the opportunity to review these documents.

William H. Gail

#67 - United States Fish & Wildlife Service

1. A biological assessment was prepared and submitted to the U.S. Fish and Wildlife Service on March 28, 2000. In its response to the biological assessment (dated April 5, 2000), the U.S. Fish and Wildlife Service concurred with the determinations regarding the Topeka shiner and the bald eagle. (See Appendix 6.)

Text has been added to the description of the affected environment and to the discussion of impacts to reflect the determinations of the assessment.

Comments

BILL GRAVES, GOVERNOR
 Jamie Clover Adams, Secretary of Agriculture
 109 SW 9th Street
 Topeka, Kansas 66612-1280
 (785) 296-3558
 FAX: (785) 296-8389

STATE OF KANSAS



JAN 12 2000

Division of Water Resources
 David L. Pope, Chief Engineer
 109 SW 9th Street, 2nd Floor
 Topeka, KS 66612-1283
 (785) 296-3717 FAX (785) 296-1176

KANSAS DEPARTMENT OF AGRICULTURE

January 11, 2000

36

Mr. Stephen T. Miller, Superintendent
 United States Department of Interior
 National Park Service
 Tallgrass Prairie National Preserve Office
 P.O. Box 585, 226 Broadway
 Cottonwood Falls, Kansas 66845-0505

Dear Mr. Miller:

Thank you for the opportunity for our agency to review the "Draft General Management Plan and Environmental Impact Statement" dated October 1999, for the Tallgrass Prairie National Preserve in Chase County, Kansas. Wise use and preservation of our natural resources for benefit of Kansas citizens should be a joint effort by our agencies.

From your report, it is noted that the preserve consists of 10,894 acres of rolling grassland. Two major creeks cross the property, Fox Creek and a tributary, Palmer Creek. Numerous springs, seeps, and stock ponds dot the landscape and make up some of the water resources for the preserve.

1. As you know, the Division of Water Resources, Kansas Department of Agriculture, administers laws governing water resource management in Kansas. K.S.A. 82a-728 of the Water Appropriation Act states in part that a permit from the Division of Water Resources is required prior to use of water for any purpose, except for domestic use and the annual diversion and beneficial use of not more than 15 acre-feet of surface water impounded in any reservoir having a total water volume of less than 15 acre-feet. Also, by law the violation of any condition or limitation under an existing water right is not allowed. Therefore, if the proposed project will result in a change in type of use, or cause the use of water in excess of the quantity or rate now authorized; or, if you have no prior authorization to use water at the site of the proposed project, you must first obtain authorization from the Chief Engineer, Division of Water Resources. It is noted that you may propose to create impoundments of water for recreation fishing opportunities. One of the recognized beneficial uses of water by the Water Appropriation Act is recreational use. If you desire to obtain a water right for recreational use of water, you should file an application for permit to appropriate water prior to use of the water. Recreational use of water is defined by K.A.R. 5-1-1(w) as the use of water in accordance with a water right which provides entertainment, enjoyment, relaxation, and fish and wildlife benefits. In Section 3, Natural Resources, Water Resources, page 60 of your impact statement, it is mentioned there are 26 constructed stock ponds, including one 200 acre-foot watershed retention impoundment. The 200 acre-foot watershed retention impoundment and any
- 2.
- 3.
- 4.

Equal Opportunity in Employment and Services

Responses

#35 – Kansas Department of Agriculture

1. Comment acknowledged.
2. While the proposed plan does cite fishing as a potential day use recreational activity, the National Park Service does not anticipate the need to create additional impoundments of water resources.
3. Comment acknowledged.
4. The Payton Creek Watershed District Number 71 controls the 200-acre retention impoundment referenced. The district has confirmed that they have the necessary permit (#DCS-0142). Language has been added to the Water Resources Section (page 72) to clarify who controls this impoundment. The National Park Service understands that existing ponds on the Preserve are exempt from permit requirements, as they are used solely for livestock purposes.

Comments

Responses

5. Comment acknowledged. Permits will be sought if necessary.

Mr. Stephen T. Miller, Superintendent
Page 2

stock pond with a storage of 15 acre-foot or greater will require a permit to appropriate water. Please complete an application for permit to appropriate water for beneficial use and submit it to this office for each diversion of surface water that is 15 acre-foot or more per calendar year. Please let us know how many applications for permit to appropriate water for beneficial use you desire and we will send the forms to you

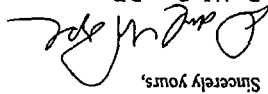
Two state laws, the Stream Obstructions Act (K.S.A. 82a-301 to 305) and the Levee Law (K.S.A. 24-126) appear to have applicability in the alternatives proposed. Bridges, culverts, channel changes and structures that are capable of impounding more than 30 acre-feet at the top of the structure would need to obtain a permit from our offices if located on non-Federal lands. Also, any fills in floodplains on non-Federal lands may need a permit from our office.

I have enclosed for your information, a copy of the Kansas Water Appropriation Act (K.S.A. 82a-701 *et seq*) and a copy of the Rules and Regulations Kansas Water Appropriation Act, K.S.A. 24-126, K.S.A. 24-105 and K.S.A. 82a-301 to 305.

Again, I appreciate the opportunity to review and comment on this comprehensive general management plan and environmental impact statement for the Tallgrass Prairie National Preserve. The Preserve will undoubtedly be of great benefit to Kansans by enhancing their awareness and knowledge of the tallgrass prairie ecosystem.

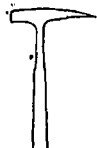
If you have further questions, please feel free to contact our office.

Sincerely yours,


David L. Pope, P.E.
Chief Engineer

DLP:dr
Enclosures

Comments



KANSAS GEOLOGICAL SURVEY

1930 Constant Ave., Campus West
The University of Kansas
Lawrence, Kansas 66047-3726
phone 785-864-3965
fax 785-864-5317

JAN 25 2000

54

January 23, 2000

Stephen Miller
Superintendent
National Park Service
Tallgrass Prairie National Preserve
P.O. Box 585
Cottonwood Falls, KS 66845

Dear Mr. Miller:

I have examined the Draft General Management Plan and Environmental Impact Statement for Tallgrass Prairie National Preserve. In general, the document appears to cover well the diverse character and future interests for the area. The following comments relate to the hydrogeology and water quality of the area and are meant to supplement information for the plan and statement.

Springs and seeps

The seeps and springs of the Preserve are a particular characteristic of the Flint Hills and therefore the type of prairie in the Preserve. The alternating layers of shales and limestones that underlie the area provide a system of several water-bearing zones. The fractures in the limestones contain water and allow its subsurface movement. The fractures have been widened through geologic time by dissolution of the limestone by the flowing water. The shales are less permeable and separate the water-bearing zones, although the shales are fractured enough to allow very slow movement of water from one limestone unit to another. The erosion of the land surface of the Flint Hills to produce pronounced hills and valleys results in a land form that intersects the water bearing zones and creates the conditions under which the water in the limestones can discharge to the surface to form springs and seeps. The limestones are not thick and do not occur in a more humid environment as in Missouri, therefore cave systems in the Flint Hills are much rarer than in Missouri and the size of springs smaller. However, the springs and seeps provide a special environment in the landscape because they often provide a perennial source of water at the surface during conditions when the rest of the land surface is dry. This allows a different local ecosystem to develop.

One of the characteristics of springs that adds to the diversity of the ecosystem is that the variation in water temperature of spring water is much less than air temperature. In general, the larger the seep or spring flow and the lower the spring is on a hill in the Flint Hills, the smaller the variation in water temperature throughout the year. The spring temperature varies about the average air temperature. Thus, the spring water is warmer than the air temperature in the winter and cooler than the air in the summer. The warmer temperature of spring water than of the air in

Responses

#54 - Kansas Geological Survey

Thank you for your comments. We have added the Oil and Gas Conservation Division of the Kansas Corporation Commission to the distribution list for the final General Management Plan and Environmental Impact Statement.

Comments

Responses

the winter often supports selected plant life through the winter period. During the summer, the cooler and constant water source again provides diversity to the local ecosystem.

Page 30 of the document indicates that stock ponds found to be of low value based on evaluation may be removed. Many ponds in the Flint Hills were built at locations where there were seeps or springs to help provide water for the surface water body. Therefore, action to remove low value ponds would help reestablishment of the natural character of the prairie by restoring the original spring environment.

Staff of the Kansas Geological Survey (Rex Buchanan and Robert Sawin) have worked with an independent geologist (Wayne Lebsack) to produce two publications that may be of interest to those evaluating the natural resources of the Preserve. These would be worth adding to the bibliography in the Preserve document.

Buchanan, R.C., R.S. Sawin, and W. Lebsack, 1998. Kansas Springs. Kansas Geological Survey, Public Information Circular 11, Lawrence, KS.

Sawin, R.S., R.C. Buchanan, and W. Lebsack, 1999. Flint Hills Springs. Kansas Academy of Science, Transactions vol. 102 (1-2): 1-31.

Agency listing for review and comment

Page 119 lists agencies and organizations to which the Preserve document was sent for review and comment. The Oil and Gas Conservation Division of the Kansas Corporation Commission is missing from this list. It is important to include this agency in your planning and management activities because they are responsible for making sure the oil and gas operations on the Preserve property follow the regulations protecting the environment. For example, there are regulations regarding the disposal of the saltwater that accompanies the oil pumped from a well. In Kansas, the amount of saltwater in the fluid pumped from an oil well is typically over 90%; the amount of oil is only several percent of the total fluid. The saltwater is separated from the oil and carried by pipes buried in the soil or by a tank truck to a disposal well where the saltwater is either injected or allowed to flow by gravity to the deep subsurface.

The following is contact information for the Oil and Gas Conservation Division:

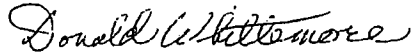
Maurice Korphage, Director
Oil and Gas Conservation Division
Kansas Corporation Commission
130 S. Market Street, Suite 2125
Wichita, KS 67202-3802
Phone: (316) 337-6200
Fax: (316) 337-6211
E-mail: m.korphage@kcc.state.ks.us

I hope that the above information will be of value to you. Best wishes in your endeavors to manage the National Preserve.

Comments

Responses

Sincerely,



Donald Whittemore
Chief, Geohydrology Section

C: Lee Allison, Director
William Harrison, Deputy Director
Rex Buchanan, Associate Director for Public Outreach

Comments

Responses

FEB 10 2000 10:20

ILLUSTRATED PRAIRIE NOTES

received 2/11/00 P. 02/01 (62)



STATE OF KANSAS
KANSAS DEPARTMENT OF WILDLIFE & PARKS

Region 4 Office
8232 E. 29th North
Wichita, KS 67220
316/683-8069 FAX 316/683-4564



February 8, 2000

Steve Miller
P.O. box 585
226 Broadway
Cottonwood Falls, KS 66845

Dear Mr. Miller,

The General Management plan and Environmental Impact statement concerning the Tallgrass Prairie National Preserve provides excellent direction and framework for the management of the preserve.

Because less than four percent of the tallgrass prairie ecosystem remains in North America, of which the majority is in Kansas, it is extremely important that the management activities lead to the enhancement and preservation of this tallgrass prairie ecosystem. The preferred alternative management plan (proposed action) successfully integrates the management of the natural and cultural resources of the preserve. This alternative will preserve, protect and interpret for the public a remnant of the tallgrass ecosystem.

Even though the preserve would not be managed as a research facility under this proposal, it would be beneficial to utilize the research conducted by other agencies and at other facilities mentioned in the preferred alternative. Because many of the large carnivores have been extirpated, hunting or controlled reduction should remain an option. The overpopulation of whitetail deer would be the primary concern. By devoting more grazing areas to bison and establishing the burn units as described in the proposed action, the management of the area will lead to increased biodiversity of the Tallgrass Prairie National Preserve.

In the past, the prairie has a long history of misunderstanding. Many early settlers described the area as barren and depressing. Today many people have a similar view of tallgrass ecosystems. The Tallgrass Prairie National Preserve can provide many with the opportunity to experience a tallgrass prairie ecosystem firsthand. The proposed management plan would provide management, education and interpretation of the tallgrass ecosystem, and therefore provide the public with an exposure that enhances understanding and appreciation of the tallgrass ecosystem.

Thank you for the opportunity to provide these comments and recommendations.

Attachment A contains some thoughts on elk and pronghorn restoration in the Flint Hills

Sincerely,

Ken McCloskey, Acting Region 4 Fish and Wildlife Supervisor

#65 - Kansas Department of Wildlife and Parks

Thank you for your comments.

Comments

Responses

FEB-13-2000 6:56 PM

INFORMATIONAL NOTES

P.03/87

Attachment A

Pronghorn and Elk Restoration in Kansas Flint Hills

The Kansas Department of Wildlife and Parks has experimented with restoration projects with both elk and pronghorn in the Flint Hills region of Kansas. Elk were released at Fort Riley, approximately 50 miles northwest of the Tallgrass National Monument. Pronghorn were released on private property approximately 15 miles southeast of the Tallgrass National Monument.

Pronghorn were released near the cattle pens exit of I 35. Public information programs were initiated before the release and landowner approval for the project was obtained before animals were released. Six releases with a total of 386 pronghorn have been made since 1978. Pronghorn dispersal from the release site was minimized by the combination of the physical features of the South Fork of the Cottonwood River, the Cottonwood Rivers, and a woven wire fence along I 35. Monitoring of the population revealed a gradual decline in the population. Radio telemetry studies conducted in conjunction with students at Emporia State University revealed that adult survival was adequate and reproduction was normal, however, fawn survival was inadequate to support a population. Predation, predominately by coyotes, was the ultimate cause of the low fawn recruitment. Fewer than 40 pronghorn survive at the present time at the release site. Pronghorn probably cannot survive in the Flint Hills region without periodic immigration of adult animals or focused predator control projects during the fawning period.

The elk restoration project began in February 1986 and continued until January 1994. In all, there have been 54 elk released at Fort Riley. The herd grew rapidly. Annual controlled hunting seasons were initiated in 1990 for adult bulls and in 1996 for antlerless elk. As of February 2000, 34 bulls and 63 antlerless elk had been removed from the herd by hunters and the herd was still estimated to be approximately 200 animals. Fort Riley is 102,000 acres and is situated between two large public land holdings at Millford and Tuttle Creek reservoirs, which reduces dispersal of elk and focuses the dispersal to the north, as opposed to all directions from the release site.

Landowner tolerance for big game is extremely volatile. Initially the landowners at the pronghorn release favored the project. However, a couple landowners became dissatisfied. One of the issues was pronghorn use of alfalfa and wheat fields in the winter and spring. The activism of some landowners dominated the future of management for pronghorn in the area. Initially the elk release was conducted on public land and the adjacent landowners were predominately interested in the project. However, as elk left the public land the expressed public sentiments changed. As a few people had experiences with elk in crops and had vehicle accidents that involved elk, the general public tolerance for elk decreased.

Both elk and pronghorn will wander from native vegetation at release sites in tallgrass prairie and will use agricultural areas. The economies of scale are such that landowners cannot expect to benefit from wild, free-ranging populations of pronghorn or elk in the Flint Hills region to the same extent as they envision suffering from the populations. Landowner tolerance for these species is currently inadequate for their management without intense population management efforts by public agencies, and is not recommended.

Comments

Responses



KANSAS
STATE
HISTORICAL
SOCIETY

Cultural Resources
Historic Preservation
Office (ext. 240)

6425 S.W. 6th Avenue
Topeka, Kansas
66615-1099
PHONE# (785) 272-8681
FAX# (785) 272-8682
TTY# (785) 272-8683

KANSAS HISTORY CENTER

Administration
Center for Historical Research
Cultural Resources
Education / Outreach
Historic Sites
Kansas Museum of History
Library & Archives

HISTORIC SITES

Adair Cabin
Constitution Hall
Cottonwood Ranch
First Territorial Capitol
Fort Hays
Goodnow House
Grinter Place
Hollenberg Station
Kaw Mission
Mormon Des Cygnes Massacre
Moccasin Creek Battlefield
Neuve American Heritage Museum
Pawnee Indian Village
Pawnee Rock
Shawnee Mission

67?

January 5, 1999

Dena Sanford
Architectural Historian
National Park Service
Midwest Support Office
1709 Jackson Street Floor 4
Omaha, Nebraska 68102-2571

Dear Ms. Sanford:

Our office has reviewed the General Management Plan for the Tallgrass Prairie National Preserve and is generally supportive of the preferred alternative.

We appreciate the opportunity to comment on the GMP and look forward to reviewing future Tallgrass Prairie National Preserve reports.

Sincerely,

Ramon Powers
State Historic Preservation Officer

#69 - Kansas State Historical Society

Thank you for your comments.

Comments

Responses

JAN 10 2000



Cooperative Extension Service
K-State Research and Extension
Chase County
Courthouse Square
P.O. Box 100
Cottonwood Falls, KS 66845-0100
316-273-6491
fax: 316-273-6617

31

January 10, 2000

Steve Miller,

I'm offering this letter in support of the preferred alternative for the General Management Plan for the Tallgrass Preserve.

A lot of work and expense has gone into the development of this plan, and you, your staff, and your committees are to be commended for their efforts.

Please consider the following as reasons to accept the preferred alternative.

1. This alternative follows the legislative mandate "to preserve, protect, and interpret for the public" the tallgrass prairie ecosystem, and the historic and cultural values represented on the ranch.
2. This alternative tells the story of the prairie from pre-settlement through the early days of ranching to modern day practices demonstrating proper management and care of the prairie environment.
3. The preferred alternative has the potential to serve as an example of good resource stewardship and ultimately be a role model to all those who presently manage a part of the tallgrass prairie. This "ripple effect" will extend your efforts to "preserve and protect" beyond the boundaries of the preserve. By example, the preferred alternative, could have an impact on many more thousands of acres of tallgrass prairie.
4. Because the preferred alternative is comprised of several management concepts (buffalo, cow herds, yearling grazing, ungrazed areas) this plan will allow the prairie ecosystem to fully express its diversity.
5. This plan looks to be a good mix of prairie preservation and visitor access. Through this plan the prairie can be cared for and also fully utilized by the American public.

Chase County
Kansas State University
Agricultural Experiment
Station and Cooperative
Extension Service
K-State, County Extension
Councils, Extension Districts,
and U.S. Department of
Agriculture Cooperating.
All educational programs
and materials available
without discrimination on
the basis of race, color,
religion, national origin,
sex, age, or disability.

"Knowledge
for Life"

#31 - Kansas State University Cooperative Extension Service

Thank you for your comments.

Comments**Responses**

In closing, the preferred alternative is not a perfect plan, and several resource management concepts need to be refined. However, this is a workable management plan that will fit the community, the Flint Hills, and the legislative mandates and intent.

Please accept these comments in support of the preferred alternative.

Sincerely,



Michael S. Holder
County Agent, Agriculture

Comments

Responses

received 12/6/99

City of
Cottonwood Falls

220 Broadway
P.O. Box 487
Cottonwood Falls, KS 66845

(316) 273-6666



Photo by Donita Rogers
1871 - 1872

December 06, 1999

Steve Miller
Cottonwood Falls, KS 66845

Dear Steve,

I am writing this letter to show support for the management plan for the Tallgrass Preserve. I think it is an excellent plan that will show visitor many aspects of prairie life. I feel that a great deal of time and planning have gone into making this plan. It is now time to implement everyone's hard work.

I appreciate the time that has been taken to look at all aspects from everyone's point of view. I feel that this is the best plan for all concerned. I appreciate the objectivity that has been used in making the plan.

Thanks for your time and consideration.

Sincerely,

Mary Helen Bell

Mary Helen Bell
Mayor

#11 - City of Cottonwood Falls

Thank you for your comments.

Comments

Responses

JAN 27 2000

Audubon of Kansas

Steve Miller
Superintendent
Tallgrass Prairie National Preserve
National Park Service
PO Box 585
Cottonwood Falls, KS 66845

January 25, 2000

Dear Mr. Miller and Members of Planning Team:

The purpose of this letter is to formally comment on behalf of Audubon of Kansas on the Draft General Management Plan/Environmental Impact Statement for the Tallgrass Prairie National Preserve.

Unfortunately, this Draft General Management Plan for the Tallgrass Prairie National Preserve fails to meet the prairie and wildlife restoration expectations of many of our members and many of those who commented earlier on the alternative management plans previously outlined. This fact is particularly evident when the plan is viewed in light of the public comments received by the National Park Service. The reports "Analysis of Public Comments to the Draft Preferred Management Alternative for Tallgrass Prairie National Preserve" of May 27, 1999 and "Content Analysis of Public Input for the Development of the General Management Plan of the Tallgrass Prairie National Preserve: AN UPDATE" of July 1, 1998 reveal that the respondents requested that the plan place more

1. emphasis on prairie preservation, reintroduction of native wildlife species, expansion of bison introduction area, while asking that there be less emphasis on cattle grazing on the Preserve. Collectively, a majority of the public comments received by the National Park Service previously expressed support for the alternative(s) that would have devoted a large area to reintroduction of "native ungulates as the dominant grazers" and use of other complementary management strategies to enhance prairie diversity.
2. The draft management plan should be redesigned to place much more emphasis on restoration of the native flora and fauna, and less on conventional cattle grazing operations.
3. Unfortunately, this Draft General Management Plan devotes less than one tenth of the property within the preserve to reintroduction of bison. The plan prematurely and inappropriately eliminates the possible reintroduction of pronghorn antelope or elk from further study. They were the other prominent native grazers that were found on the Kansas prairie prior to settlement. Supporters of the preserve have long envisioned restoration of native wildlife on a substantial part of the preserve. An opportunity to see bison, elk, pronghorn antelope and other wildlife in a natural prairie landscape would be one of the most significant attractions for visitors to the preserve in the future.

#63 - Audubon of Kansas

1. Public comments, along with existing scholarly and scientific information, new information developed during and for the planning effort, information obtained during consultation, and the professional judgement of planning team members and consultants were all used to develop and refine the preferred management alternative. It is also important to note that the public comments that were received were offered on a self-selected basis. It is not the result of a scientifically rigorous process.
2. The focus of the preferred alternative is on incorporating the key processes, fire and grazing, to increase the abundance of dominant native species, maintain characteristic populations of rare species and key functional groups, and to reduce or eliminate exotic species. This would be achieved in part through the use of fire and different grazing regimes in various combinations that vary over time and location creating a dynamic and heterogeneous landscape. In addition, visitors would then have the opportunity to experience the preserve and prairie landscape.
3. The commentor is referred to the correspondence from the Kansas Department of Wildlife and Parks and to #2 above. While acknowledging that the spatial and temporal patterns of grazing and their impacts differ between cattle and bison, detailed and controlled studies on the impacts to plant species composition have not been completed.

Comments

The diverse natural heritage of the Kansas prairie, and the opportunity to interpret and share it with the visiting public on the preserve will be short changed by this draft plan. Visitors who want to see bison and elk on the same prairie landscape will need to travel on to the Maxwell Game Preserve near McPherson or to the Prairie State Park near Joplin, Missouri. The nearest unit of the National Park system where the public can consistently see pronghorn antelope is in South Dakota. Although the Kansas Department of Wildlife and Parks restored a small population of pronghorns to an area northeast of Matfield Green twenty years ago, they are on private land in an area largely inaccessible and are seldom seen by the public.

The assumptions made to justify elimination from further study the possible reintroduction of pronghorn antelope and/or elk appear to be based on inadequate scientific information. In fact, only a single conversation with a biologist with the Kansas Department of Wildlife and Parks (i.e. Sorensen) is cited. Additional information and alternative management strategies need to be considered. Although the pronghorn antelope population reintroduced in the southeastern part of Chase County has not increased consistently or substantially over the years, a small population continues to exist, and it is conceivable that a similar population could exist as well on the 8,000 acre prairie landscape on the preserve west of Highway 177. Although the other populations of pronghorn antelope in Kansas are impacted by illegal shooting, this mortality factor would probably be minimal on the Preserve. In addition, further study may reveal that owners and operators of adjacent property might be receptive to reintroduction--thus, eliminating the perceived obstacle projected in the plan regarding the likelihood that the animals may move back and forth across property lines through existing fences. This, by the way, occurs on virtually all units of the National Park System that have pronghorn antelope (e.g. Badlands, Theodore Roosevelt, Grand Teton, etc.).

It has also been demonstrated that an elk herd can be maintained on habitat similar to that contained on the Preserve--in fact with a much smaller acreage at the Maxwell Game Preserve near Canton, Kansas. It may be just as feasible to start with and maintain a disease free elk herd as it is to do the same with bison. If this objective can be accomplished by the Missouri Department of Natural Resources at the Prairie State Park near Joplin, it can be managed by the National Park Service at the Tallgrass Prairie National Preserve in Kansas. To discard the possibility of further study for the potential future reintroduction of pronghorn antelope or elk on the Preserve will short change the opportunity to restore a representative example of the Tallgrass prairie ecosystem within the National Park System.

Bison, elk, pronghorn antelope and other wildlife are important elements not only for their role within the Tallgrass prairie ecosystem, but also in meeting the expectations of visitors. A failure to recognize and address this expectation may greatly diminish the economic potential of the preserve in generation of tourism revenue to surrounding communities and the state of Kansas

4.

We endorse the concept of an interpretative focus on the legacy of ranching on lands associated with the historic Spring Hill (Z-Bar) ranchstead. However, the draft plan being proposed would obligate approximately nine thousand acres to pasture management with cattle. This would be similar to range management practices employed on several million acres of private land in the Flint Hills.

5.

Although cattle grazing is a most appropriate enterprise for private land--and an economic use that makes it possible for landowners to maintain native

Responses

4. Visitors will come to the preserve for a variety of reasons related to the natural and cultural resources and access for public use. The preferred alternative would result in an increase in the number and variety of native wildlife species and offer visitors greater opportunities overall to enjoy wildlife. Analysis of the impacts of the preferred alternative to the socioeconomic environment supports a general conclusion that the local economy would benefit.
5. The commentor is again referred to #2 above. The plan proposes to use fire and grazing in arrangements unlike the ones now used in the majority of the area around the preserve. Currently, most of the prairie around the preserve is burned completely and annually during the spring. While other grazing regimes are used, a regime of early, intensive stocking is common. The result of the Preferred Alternative will be a dynamic mosaic, not the largely homogenous landscape found now.

Comments

Responses

grasslands--other resource values should be given priority on a large proportion of the preserve. It is a Tallgrass Prairie National Preserve, not a national grassland with permanent grazing allotments.

6. We recognize that the existing private grazing lease should be incorporated into the planning protocol, and honored until it can be acquired. It may have been an important element of National Park Trust funding for the acquisition of the property. With that in mind we are indebted to both the Trust and to the leaseholder. However, the plan for the Tallgrass Prairie National Preserve should look beyond the immediate restraints of the lease and project the long established national vision as the long term plan for the preserve. Management emphasis for most of the preserve should be on re-establishment of native plant and animal communities.

It must also be recognized that the grazing lease has the potential to greatly restrict management options for the Preserve. Nothing can be changed without the approval of the Trust and the enterprise that holds a long term lease on the property, and any change may require a substantial payment to the leasee to buy back portions of the lease. It is obvious that the lease is and has been a potential barrier to many management options. Extensive public resources are and have been devoted to this planning process and will be expended to implement the plan, yet the public is precluded from seeing the lease. The public should be apprised of what the financial obligation would be to retire (buy out) the lease on an acre by acre basis at any time over the 35 year life of the lease. It has not even been available to the Advisory Committee. Because of its potential influence on every aspect of the process, including selection of the Preferred Plan, the lease should be made a part of the public record and included in the Environmental Impact Statement. There is no compelling reason for it to be hidden from public scrutiny to determine if, in fact, it has an influence on the plan. There are no compelling reasons why the public should not be able to see the lease and know what restrains, contractual or implied, are imposed on management options available to the National Park Service and/or the National Park Trust.

7. Consider, for example, if there was a lease to extract minerals below ground under Yellowstone, the public reaction would demand disclosure of the lease to determine if the thermal resources would be affected. The flora and fauna of the Tallgrass Prairie National Preserve are the primary resources of this unit of the National Park System, and requirements for livestock grazing and burning can have a dramatic impact on which species thrive and which species are diminished.

10. At present the property is operated under a grazing lease that involves annual spring burning of virtually all of the native grassland on the ranch, followed by intensive early season grazing (grazing at double the normal stocking rate for the first three months of the growing season). This grazing strategy essentially eliminates nesting and brood habitat for most grassland birds like the greater prairie chicken. Although intensive early season stocking is increasingly used with success by producers to maximize beef gains on a per acre basis on private pasture lands in the area, traditional practices with lower stocking rates and longer intervals between burning would be more favorable for wildlife on the preserve.

11. With the exception of the major overarching flaws outlined above--a failure to adequately plan for the restoration of native wildlife populations--we believe that

6. The desired futures that appear on pages 10-12 provide the long term vision for the preserve. The preferred alternative describes what is reasonably expected for the life of this general management plan.
7. Comment acknowledged. Public Law 104-333 defines the purposes for the preserve. One of those purposes is the preservation, protection, and interpretation for the public of an example of a tallgrass prairie ecosystem. The other purpose is the preservation and interpretation for the public of the historic and cultural values represented on the Spring Hill Ranch.
8. The GMP/EIS acknowledges the existing grazing lease, as well as the oil and gas lease, as an existing condition. Implementation of any action alternative, including the Preferred Alternative, would require the buyback of at least some portion of the current lease.
9. The lease is a private contractual agreement between the National Park Trust and the leaseholder. Release of information regarding the lease would be at the discretion of the NPT and the leaseholder.
10. Comment acknowledged. The commentator is referred to Page 26, and the discussion on the relationship between National Park Service and National Park Trust, and Page 92, Existing Special Uses regarding aspects of the lease and NPT's current management objectives.

Comments

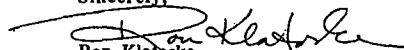
the Park Service team did an excellent job of planning most other important elements of the preserve. This includes preservation of the historic 1880s ranchstead, and incorporation of an interpretative and management emphasis on the legacy of ranching by utilizing the ranchstead and associated lands for this purpose. I compliment the planning team for the Flint Hills Ranching Legacy element of the plan and for focusing on that subject in the area associated with the ranch house, barn, other historic buildings and the adjacent fields which were once cultivated. Emphasis on the cultural resources in this area deserve the priority afforded them in the draft plan. Retaining the ranching character of the historic Z-Bar/Spring Hill Ranch headquarters, establishment of historic breeds of domesticated livestock, and use of historic crops to help interpret the agricultural and ranching heritage of this area will significantly contribute to the success of the Preserve.

We are also pleased with plans to restore native plant communities to some of the fields along Fox Creek. The concepts emerging to accommodate visitor access to the property are applauded.

We are grateful for the widespread Kansas and national support that the Preserve has received, and for the support of local communities. We are confident that the Preserve can become one of the most important "destinations" for travelers within Kansas and for visitors to the state.

Please continue to improve the Draft General Management Plan for the Tallgrass Prairie National Preserve, America's only opportunity to recreate and preserve a tallgrass prairie ecosystem within the National Park Service preservation system.

Sincerely,



Ron Klataske
Executive Director
Audubon of Kansas
813 Juniper Drive
Manhattan, KS 66502

Responses

11. We believe the subject of "restoration of native wildlife populations" has been adequately treated for the scope of the General Management Plan. Detailed discussions regarding the feasibility of introducing animal species (bison will be addressed in a Bison Management Plan, GMP, page A-5) are beyond the scope of this plan. Some species, such as elk and pronghorn antelope, are discussed on page 32 of the GMP and within an attachment to the Kansas Department of Wildlife and Parks comment letter dated February 8, 2000. This letter discusses concerns that "Landowner tolerance for these species is currently inadequate for their management without intense population management efforts by public agencies, and is not recommended." Consideration of other species would depend on their historic range, public controversy, land area and home range, and other issues too detailed for the General Management Plan.

Comments

Responses



received 12/13/99

(18)

#18 - Dakota Zoo

Thank you for your comments.

December 8, 1999

Superintendent
Tallgrass Prairie National Preserve
P.O. Box 585
Cottonwood Falls, KS 66845

Dear Superintendent:

I appreciate very much your forwarding a copy of the draft General Management Plan and Environmental Impact Statement for the Tallgrass Prairie National Preserve to me. I have read this document in its entirety and have a few comments that I would like to share with you. I have a special interest in the Flint Hills and have many fond memories of growing up hiking through the hills in search of adventure. An uncle of mine was a cowboy at the Z Bar ranch and I thoroughly enjoyed the time that he toured us through the backcountry.

I have also recently had the opportunity to review the draft regulations for proposed changes to the management of the grasslands of North Dakota and found your draft to be very refreshing. The North Dakota plan included an environmental impact statement that approaches the absurd in its length and scope. Your document proved to be very readable and easy to understand, while the afore-mentioned document is composed of a two foot tall pile of paper that provides the reader an excellent change of dying of boredom before finally mulling through it. My compliments to the drafters who saw fit to keep this document in its clear and concise form.

After carefully reviewing this document I find myself whole-heartedly supporting the Preferred Alternative (Proposed Action). I believe that this alternative will provide the most balanced approach to preserving and interpreting the overall site. Some of the key points that I would like to support are:

1. Backcountry access should be allowed with the ever-increasing popularity of backpacking and hiking, a large portion of the area should be open for non-vehicular backcountry use. I utilize our nearby Theodore Roosevelt National Park for backpacking and hiking and agree with their approach to ensuring that the backcountry is not too extensively damaged by human activities. Some of the regulations imposed are no open fires (stoves only), no established backcountry campsites (disperses tent sites and reduces impactation) and no mountain hiking.

Comments

Responses



2. Prescribed burns are necessary-evidence shows that burning the prairie is both beneficial and natural for the grasslands and most animal life as well. I particularly like the idea of setting aside areas which would not be burned which would provide continued nesting areas for certain birds, amphibians and reptiles.

3. The establishment of a bison herd-this is once again a natural player in the prairie ecosystem and it would also provide for increased benefits for wildlife viewing for visitors. The thought of utilizing handling facilities for both bison and cattle is wise.

I also believe that at some point in the future it might be well to allow a horseback ride concession in the preserve to allow visitors to become more immersed in the prairie experience. This is available in the Theodore Roosevelt National Park and is very popular. I think it also helps to allow people to better understand the western way of life and also appreciate nature as a whole by "doing something" in it.

I appreciate the opportunity to comment on the future management of the Tallgrass Prairie National Preserve. I wish you the best of luck in implementing the plan for this area and would be glad to assist in any area which you might wish to have the help of one who enjoys nature and wants to see it preserved.

Sincerely,

A handwritten signature in black ink, appearing to read "Terry Lincoln".

Terry Lincoln
Zoo Director

Comments

Open House Comment Sheet

Received 12/2/94

⑤

The purpose of these open houses is to discuss and solicit comments from you regarding the Draft General Management Plan (GMP) and Environmental Impact Statement (EIS) for the Tallgrass Prairie National Preserve. Comments regarding any portion(s) of the document would be very helpful and will be considered by the planning team as the GMP/EIS is finalized in the coming months.

Comment sheets can be placed in the drop-off box during this open house, or can be mailed to: Superintendent, Tallgrass Prairie National Preserve, P.O. Box 585, Cottonwood Falls, KS 66845. If mailed, the comments should reach the National Park Service by January 25, 2000. Thank you for your interest in Tallgrass Prairie National Preserve

Comments (Use back and/or additional sheets if necessary)

from inputted with the state of development data
collection of concepts and projects from a broad
spectrum of people, and collection of all of the
information into a rationale GMP. Representation
concerning the Grasslands Heritage Foundation, a place
a high priority upon natural resources, such as
plants, plants & animals, water resources, etc. Notes
appreciate the opportunity to discuss aspects of the
land and what they mean to all of us.
of preserving and protection of wildlife/mammals
management and "action" are also concerns. Thank you!

NAME:

FRANCIS E. (Pete) CUPPAGE, M.D.

REPRESENTING (IF ANY): President T-Grassland Heritage Foundation

ADDRESS: 4740 Birch Swan Dr.

CITY, STATE, ZIP: Shawnee, KS 66216-1235

The National Park Service is required to make comments, including names and home addresses of the commenters, available for public review. Private individuals may request that we withhold their name and address from the planning record. If you wish us to withhold your name and address, please check this box: We will honor your request to the extent allowable by law. All submissions from organizations or businesses and from persons identifying themselves as representatives or officials of organizations or businesses will be available for public review in their entirety. We can not consider anonymous comments.

Responses

#5 - Grasslands Heritage Foundation

Thank you for your comments.

Comments



Kansas Farm Bureau

2627 KFB Plaza, P.O. Box 3500, Manhattan, Kansas 66505-8508 / (785) 587-6000

JAN 14 2000

47

January 21, 2000

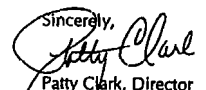
Superintendent
Tallgrass National Prairie Preserve
PO Box 585
226 Broadway
Cottonwood Falls, Ks. 66845

Dear Sir:

Enclosed please find, for record, the written comments of Kansas Farm Bureau on the Draft General Management Plan for the Tallgrass Prairie National Preserve dated October, 1999.

We appreciate you forwarding copies of the draft plan to our offices and we shared them with our Chase County Farm Bureau Board members for their input. The resulting document is a reflection of their review and ours.

Should you have any questions or should you like to meet at any time, please don't hesitate to contact me. We would be happy to discuss any of the points brought forward in the enclosed document.

Sincerely,

Patty Clark, Director
Public Policy Division
Kansas Farm Bureau



Responses

Comments

Responses

Kansas Farm Bureau



PUBLIC POLICY STATEMENT

Comments of Draft General Management Plan
Tallgrass National Prairie PreserveKansas Farm Bureau
Manhattan, Ks 66503

January 20, 2000

Kansas Farm Bureau and its members appreciate both the opportunity to comment on the Draft General Management Plan and the time spent on the development of the plan. However, as in past-recorded comments, we have concerns that are important to our members and which must be voiced for further consideration.

Comments on general philosophy of draft plan:

1. First and foremost is the supposition that tallgrass prairie is an endangered ecosystem. This theory is not only woven throughout the GMP, but was in fact, the catalyst for the creation of the preserve in the first place. However, we believe the existence of tallgrass prairie throughout the Great Plains area today, and its preservation by both public and private owners, would demonstrate this assumption is less than substantiated.

The recently established Tallgrass Prairie Park in Oklahoma and the Nature Conservancy's Konza Prairie Research Area are two examples of publicly accessed preserves. The thousands of acres of Kansas Flint Hills owned privately also secure historic preservation of the tallgrass prairie because they are not tillable and because the ranching community has employed conscientious grass management throughout its history. That grass management is evidenced and documented by the improved condition of today's prairie.
2. Secondly, the composition of the Enhancement Panel and the Sustainable Management Panel appears heavily weighted to biologists and naturalists. Though these areas of scientific expertise are important, the lack of equitable representation on those critical panels from the current cattle ranching perspective is apparent and there appears to have been little participation by well-respected Kansas range management scientists. Therefore, our concern is the development of the plan was skewed based on panelist inclusion and exclusion.

#47, Kansas Farm Bureau

1. The National Park Service acknowledges that public and private landowners have worked hard to preserve tallgrass prairie, and that large tracts do remain in the Flint Hills. The statement was made to emphasize the fact that nationally only four percent of the original tallgrass prairie remains and that the greatest opportunities to preserve tallgrass prairie are likely in the Flint Hills (Samson and Knopf 1994).
2. The National Park Service believes the panels were objective and represent an appropriate range of interests and expertise. A broader group of persons familiar with the resources and practices of the Flint Hills region reviewed and commented on the work of both panels. Please see pages 17-20 and Appendix 9 for a detailed discussion of the panels.

Comments

3. Finally, it is evident that the consistent priority of the plan is to devote more grazing areas to bison than to cattle. We would offer that both public and private bison herds already exist in Kansas including the herd associated with the Konza Prairie Research Center, the Maxwell Game Preserve, the Wildlife Refuge in Salina and the recent purchase of the sister Z-Bar Ranch in Barber County by Ted Turner which will devote over 33,000 acres to bison. Thus the tourism and research opportunities to view and study bison in native habitat are plentiful in this region, but the opportunities for the public to experience and study cattle ranching history and management are extremely limited.

Comments on specific recommendations within draft plan:

4. The priority use of "heterogeneous disturbances" in the management of the preserve, particularly the use of fire at varied times throughout the year still remains a concern to neighboring landowners. We would strongly urge the preserve management to notify and consult with neighboring ranchers in advance when a burning strategy of unusual timing is being considered. Though we understand these would be an effort to replicate nature and they are presumed by the advisory panels to enhance the prairie, ill-timed fires could pose a threat to neighboring private lands.
5. We appreciate the intent of the preserve management to spend budgetary resources wisely, but we believe that dual purpose handling facilities for cattle and bison are unrealistic given both the conformation and natural temperaments of the two species. We applaud the objective to maintain a disease-free bison herd, but should infection occur, cross-contamination could occur if the same handling facilities are utilized. Relative to bison herd management, fence construction and maintenance will remain of utmost importance to neighboring landowners.
6. We appreciate that this is a draft plan, but nowhere in the Preferred Management Plan does it indicate exactly the acreage devoted to the Ranching Legacy Area or the Prairie Landscape Area. Therefore, it would be our presumption that the Ranching Heritage component of the Preserve would be minimized to allow for the larger bison grazing areas that seem to be a priority in the plan.
7. As farmers and ranchers we already have a very high regard for the prairie ecosystem as a natural resource to be understood and appreciated. It is, after all, a resource we have cared for through generations of private management. However, we raise a concern with the statement that visitors "Be moved to personal action toward the protection of prairie and other natural and cultural landscapes." If visitors are to be "moved" toward action that further expands public lands at the expense of further loss of private property, we cannot support that message.

Responses

3. The priority of the general management plan, as required by Public Law 104-333, is the preservation of the tallgrass prairie ecosystem. Both cattle and bison are envisioned as tools for achieving this priority. The preferred alternative, as described on pages 33-41 and depicted on Figure 4, page 35, clearly provides that more land within the preserve will be managed with cattle than with bison. The National Park Service believes the preferred alternative will provide many opportunities for interpretation of the ranching legacy of the Flint Hills region (refer to page 37 for details).
4. These concerns will be addressed as part of the Fire Management Plan, which will be prepared after approval of this General Management Plan (refer to page A-5).
5. These concerns will be addressed as part of the Bison Management Plan, which will be prepared after approval of this General Management Plan (refer to page A-5).
6. The general boundaries for the management areas are depicted in Figure 4, page 35. For clarification, approximate acreage figures have been added to the legend for this figure, as well as to the figures depicting other alternatives. See the National Park Service response # 3 above, for areas that will be managed with cattle and with bison.
7. The National Park Service desire is for visitors to be moved to support public and private protection, understanding, and appreciation of the prairie.

Comments

Responses

8. There is reference in the recommendations of the Enhancement Panel to minimize development within and adjacent to the park and the preserve. We would offer that should the recommendation ever be incorporated into the preserve management strategy, adjacent landowners be notified as to the potential impact on the management, development and improvement of their property and be allowed public comment and recourse. We feel strongly that adjacent landowners should not be penalized in any way because they happen to adjoin the Preserve.

9. In closing, it must be noted that at the outset of the movement to create this preserve there was an implicit promise to the residents of the surrounding communities of increased tourism and economic development. Frankly, this implied assurance led to divisive debates between neighbors, families and friends that continue even today.

We find it difficult to trust in the promise when reviewing the GMP and noting the prevalent use of the language "limited access" (and other phrases of similar intent) pertaining to visitor experience and preserve access. We also feel that it will be difficult to entice tourists when other prairie preserves exist in such close proximity (i.e. Oklahoma and Konza) and that bison preserves and ranches are more prevalent now than even ten years ago. A preserve devoting more attention to ranching and ranching heritage holds greater promise of fulfilling the tourism increases that were so frequently touted as the creation of the park was debated.

10. Also it is imperative the preserve be dedicated to upholding the Kansas congressional delegation's intent as stated by Senator Nancy Kassebaum-Baker and recorded in the Congressional Record, "The conferees note that the Kansas congressional delegation is united in its belief that a strong emphasis of the preserve should include the management of rangelands through historic and contemporary ranching practices."

We respectfully thank you for your time and attention to our concerns and would welcome a dialogue at any time that may serve to resolve areas of disagreement.

8. Comment acknowledged. See the second Desired Future on page 10.
9. The priority of the General Management Plan, as required by Public Law 104-333, is the preservation of the tallgrass prairie ecosystem. The Mission Statement for the preserve (page 10) makes clear the intent of the National Park Service to offer opportunities for public enjoyment and access to the Preserve's features.
10. Comment acknowledged. This plan's Preferred Alternative (proposed action) includes many provisions pertaining to the comment. For example, historic breeds of domestic livestock would be the predominant grazing animal in much of the preserve. Livestock management opportunities would afford visitors opportunities to observe ranching in all seasons. Historic grazing regimes and livestock would be used to interpret ranching practices. The commentor is referred to the Preferred Alternative for additional examples.

Comments

The Chase County Farm Bureau Association
"Your Voice in Agriculture"
Box 160 • Cottonwood Falls, Kansas 66845
Phone (316) 273-6471

JAN 24 2000

(51)

January 24, 2000

1. We, the members of the Chase County Farm Bureau, believe that the terms and intent of the enabling legislation should be followed by both the National Park Service and the National Parks & Trust. The Alternative Plan F initially called for only 1000 acres to be used for bison. Now we find that nothing to eliminate the expansion of the bison part of the Tallgrass Prairie Preserve is written in the management plan. It should be in black and white in the management plan how many acres will be used for bison and stated that the remainder of the ranch will be used to demonstrate cattle ranching progression through the years or for traditional cattle grazing as prescribed in the Flint Hills Region.

2. We also feel that local ranchers should be included in the composition of the Enhancement Panel and Sustainable Management Panel. It is a glaring omission to us in the agricultural community.

Sincerely,

Howard Blender

Chase County Farm Bureau Association Board of Directors
Howard Blender, President

Responses

51 - Chase County Farm Bureau Association

1. The recommended bison reintroduction area is depicted on Figure 4, page 35. Any adjustment of this area will be assessed, with public input, through the Bison Management Plan, to be prepared after approval of This General Management Plan. The prairie in other areas of the preserve will, indeed, be managed with cattle, thereby providing for interpretation of the area's ranching legacy.
2. The panels were formed for a specific task as described on page 17 of the plan. This task has been completed. The National Park Service does not anticipate that the panels would be reconvened in the future. The National Park Service believes the panels were objective and represented an appropriate range of interests and expertise.

Comments

fishing (for example, on the Cottonwood River), and recreational hunting that may be inappropriate or limited within the Preserve.

7. • A strong nexus should be established between prairie demonstration plots and resource and visitor experience goals.
8. • Access to bottomland prairie and other areas should be evaluated to determine whether trails might actually protect resources better than informal access as suggested. Educational materials provided at the visitor center such as "leave no trace" brochures may be helpful in this regard.
9. • Rejuvenation of upland prairie should not be forgotten.
10. • The visitor center and service facilities should avoid sensitive riparian areas. NPS and its partners should explore staging areas in gateway communities to avoid unnecessary development within the Preserve.
11. • Hunting should be NPS-supervised and utilized for resource management purposes such as population control. Recreational hunting should not be permitted within Preserve boundaries, but rather explored in the surrounding Chase County area.
12. • A bison management plan is a good idea. However, the Preserve should examine overall grazing practices including both bison and cattle. This could be addressed in a separate plan or through the resource management plan. Appendix 1 appears to indicate that all alternatives, including the preferred alternative, address some aspects of grazing as a management tool. If this is a comprehensive list, perhaps all bases are covered. However, the plan states that current grazing practices have contributed at least partially to loss of biodiversity, diminished water quality, and threats to endangered aquatic species such as the Topeka Shiner. The Preserve should determine to what extent current land management practices contribute to these problem areas, what other factors may be responsible, the role of adjacent landowners, necessary remedial actions that should be taken, associated costs and potential apportionment of costs.
13. • NPCA encourages congressional support for base Preserve funding, and funding for additional studies – particularly those that develop baseline resource data and establish a monitoring program, and VERP (Visitor Experience Resource Protection) studies. Although the Preserve is required to achieve some measure of financial sustainability, an analogy to private business supports the need for some initial capital investment to bring the Preserve up to minimum operational standards.

In conclusion, the Tallgrass Prairie National Preserve Draft General Management Plan provides a good foundation for park management and cooperation with partners. Of course, subsequent planning, additional research and information gathering, and involvement of stakeholders will be essential to the long-term success of the Preserve and maintaining the necessary alliances between partners. The National Parks Conservation

Responses

7. Language has been added to the first prescription on page 34 (Preserve Wide Prescriptions) to strengthen the linkage suggested.
8. Point well taken. Language has been added to prescriptions for the Flint Hills Ranching Legacy Area that provides for consideration of visitor trails in this area.
9. Agreed.
10. Agreed. See page 37, Visitor Information and Orientation Area.
11. Agreed. See page 34, fourth bullet statement. Language has been added to make clear that hunting would be used only as a tool to achieve specific resource management objectives.
12. The Resource Management Plan (page A-3) already underway "would articulate and detail the need for research, inventories, monitoring, and other programs..." and would contain project statements outlining the need to monitor grazing practices.
13. The intent of the inventory and monitoring program described in the desired futures and under the preferred alternative is to provide the data necessary to understand these types of resource management issues.
14. Comment acknowledged.

Comments

Responses

Association looks forward to continuing its involvement with the Preserve and its surrounding communities.

Thank you again for your attention to these comments. Please feel free to call with any questions you may have.

Sincerely,



Lori M. Nelson
Regional Director

cc: Tom Kiernan
Bill Schenk
Barbara Zurhellen

Comments

Responses



NATIONAL WILDLIFE FEDERATION*

People and Nature: Our Future Is in the Balance

Rocky Mountain Natural Resource Center

JAN 24 2000

48

January 21, 2000

Superintendent
Tallgrass Prairie National Preserve
P.O. Box 585
Cottonwood Falls, KS 66845

RE: The Draft Tallgrass Prairie National Preserve General Management Plan/EIS

Dear Superintendent:

The following are comments submitted by the National Wildlife Federation and its state affiliate, the Kansas Wildlife Federation regarding the draft preferred alternative as stated in the Draft Tallgrass Prairie National Preserve General Management Plan/EIS for the future management of the Tallgrass Prairie National Preserve.

The National Wildlife Federation (NWF) is the nation's largest, not-for-profit, environmental education and advocacy organization with more than four million members and supporters. NWF promotes the conservation of natural resources and protection of the earth's environment. NWF staff works cooperatively with 46 state affiliates and other organizations on local, regional, and national environmental issues.

The Kansas Wildlife Federation (KWF) is a long time NWF affiliate. KWF is an active group of volunteer conservationists committed to wildlife habitat protection and the protection of quality hunting and fishing in Kansas.

Both NWF and KWF are interested in and supportive of the preservation and restoration of native fauna and flora on prairie grasslands. Less than one percent of the historic amount of native tallgrass prairie remains; the Tallgrass Prairie National Preserve represents a significant portion of this remnant.

In general, we support the preferred alternative. In previous comment letters to the Tallgrass Prairie Preserve regarding the preliminary alternatives, NWF and KWF encouraged the National Park Service (NPS) to manage the Preserve in such a manner as to revitalize the biodiversity of the tallgrass prairie by restoring and protecting key ecological components to the land. We believe that the preferred alternative helps to achieve the goal of revitalizing this biodiversity.

Comments

Responses

1.

General Comments

The actions that we support include the following:

- The NPS actively seeking partnerships and opportunities for cooperation with local communities, government agencies, non-profit organizations, and other entities that may have an interest in preserving to achieve the Preserve's desired futures. Both NWF and KWF, and likely, the Intertribal Bison Cooperative (ITBC), are interested in working cooperatively with the NPS to achieve the Preserve's goals.
- Managing the Preserve to maintain and enhance the tallgrass prairie within its boundaries in part through use of fire and historic and contemporary grazing regimes in differencing arrangement that vary over time and location.
- Prescribed fire applications to create a varied landscape, or vegetative mosaic, to help maintain and enhance tallgrass prairie, and to encourage and manage the wide variety of native plant and animal life associated with the prairie.
- Protection of riparian areas to prevent erosion and the further loss of vegetation. Restoring the Fox Creek riparian area to the rare bottomland prairie containing species common to deeper soils and wetter sites, will allow the public the opportunity to view an example of the rare bottomland prairies.
- Management actions to protect threatened and endangered species and species of concern throughout the Preserve boundaries.
- No introduction of, but removal and control of, alien, non-indigenous species within riparian areas or areas of native prairie.
- Rehabilitation and restoration of the prairie when the mineral lease permanently expires and/or gas wells are plugged and abandoned.
- A range of on-site interpretation and education programs focusing on the natural history of the tallgrass prairie and American Indian history and culture.
- A Bison Management Plan that will be developed with public participation that is consistent with laws, policies, and procedures applicable to the NPS. Please include NWF and ITBC on the mailing list for the management plan.

In previous comments, both NWF and KWF urged the NPS to reintroduce other native ungulates such as pronghorn antelope and elk. After reading the "Possible Actions Eliminated From Further Study," it has become clear this may not be a feasible option. As stated in the Study, both pronghorn antelope and elk depend upon large open spaces and climatic conditions. In the future, new opportunities for land acquisition may arise. Should the necessary land and habitat needs become available, we urge the NPS to consider reintroducing both species. We support the statement "While elk could be kept in small areas, it would be important to treat elk as a component of the ecosystem and avoid a zoo-like environment."

2.

Specific Comments

3.

In regards to the proposed alternative, we offer the following comments:

- Development of a management plan for hunting or controlled reduction. Both NWF and KWF continue to support the concept of limited public hunts on the Preserve. Such hunts would serve

#48 - National Wildlife Federation

1. Comments acknowledged.
2. The boundary of the preserve is defined by Public Law 104-333. The National Park Service is not authorized to take management actions outside of this boundary.
3. Page 31 of the General Management Plan makes clear a Bison Management Plan would be developed that is consistent with laws, policies, and procedures applicable to the National Park Service. The Bison Management Plan would address distribution of surplus animals. Page 34 (4th bullet, Preserve Wide Prescriptions) of the General Management Plan states that hunting is a management tool that may be utilized should a species become overpopulated.

Comments

Responses

- as an integral tool in accomplishing the wildlife objectives of a Preserve Plan focused on the recovery and maintenance of healthy wild ungulate populations. These hunts are preferable to any penning and auctioning of excess bison and in controlling the population of other game animals such as the white-tailed deer. We believe the bison herd may have to be managed by using both a hunt and live removal. It may be possible to provide live excess bison to the ITBC and suggest the NPS contact them. We also suggest contacting local tribes (Prairie Band of Potawatami) for assistance in the cultural interpretation of the area.
4. Visitor and administrative facilities. These facilities should provide basic education and interpretation efforts and should include the history of the Native Americans inhabiting the area.
5. Historic breeds of domesticated livestock would be the predominant grazing animals in the Flint Hill Ranching Legacy Area. We do not support the concept that the historic breeds of domesticated livestock will properly exemplify historic grazing regimes. While cattle grazing may be one of the historic uses of this land, it does not pre-date the free ranging bison herds on the prairie grasslands. Therefore, we urge the NPS to designate more land for bison and less for cattle.
6. The emphasis in the Prairie Landscape Area would be the management of the prairie through the use of cattle and bison, which provides a variety of opportunities for the visitor to experience the prairie and prairie landscape. We continue to be concerned that a majority of the Preserve will be open to cattle grazing. It has been demonstrated that cattle grazing must be intensively monitored and managed to avoid damage to grasslands and to stimulate biodiversity. Bison do not require such intensive monitoring and management. Therefore, we urge the NPS to manage this Preserve in a manner that preserves the important prairie ecosystem and not as another grazing allotment.
- Concerns
7. There appears to be an inconsistency with the determination to control and eliminate non-native species from the prairie and riparian areas, but a desire to highlight cattle grazing throughout the Preserve. There is more acreage designated for cattle use compared to bison use. While we recognize the need to preserve space for cattle grazing in the Flint Hills Legacy Ranching Area, we do not support cattle grazing (an exotic species) to the exclusion of the native species (bison, elk, and pronghorn).
8. The Plan states that pronghorn reintroduction will be unsuccessful because coyote predation will eliminate the pronghorn. However, the Plan later states that white-tailed deer lack natural predators and would have to be controlled. We believe these two statements contradict one another and should be reconciled.
9. In regards to emphasizing the public viewing opportunities for cattle grazing, we find it difficult to believe that there is a lack of such opportunities currently present throughout the state of Kansas.
10. Has the NPS determined what fee the ranchers will be charged to graze their cattle within the Preserve, which is a public grassland? Also, will the natural history of the area and the history of the Native Americans historically inhabiting the area have equal representation as the cattle ranching in the interpretive areas?
11. We believe that a small token herd of cattle will properly demonstrate a
- 12.

4. A key interpretation theme described in The General Management Plan (page 13) is the story of the continuum of human experience in the Flint Hills region. Themes and stories will be further developed through a Comprehensive Interpretation Plan, as is noted on page A-3, Appendix 2.
5. Bison are not an element of the ranching legacy that is the focus of the area.
6. The priority of the plan, as required by Public Law 104-333, is the preservation of the tallgrass prairie ecosystem. Both cattle and bison are envisioned as tools for achieving this priority.
7. As noted on page 40, in the second bullet under Prairie Landscape Area, actual numbers of bison will be discussed under a Bison Management Plan for the preserve. Cattle grazing is a legitimate use and the legislation for the preserve speaks specifically to an agreement with each individual who "holds rights for cattle grazing within the boundaries of the preserve." Regarding the question of exotic status for cattle: The Management Policies of the National Park Service specific direction regarding both the definition of an exotic, "...those that occur in a given place as a result of direct or indirect, deliberate or accidental actions by humans..." and their introduction, "...nonnative species that are a desirable part of the historic scene being represented in a cultural zone may be introduced, but only if they are controlled by means as... pasturing for animals." This controlled environment also fulfills the mandate under Executive Order 13112 titled Invasive Species, Section 2, #2 directing "control of such populations."

Comments

public viewing opportunity. However, what will best provide a public viewing opportunity, is a large herd of bison to demonstrate the historic presence of this species throughout the Plains.

In conclusion, we applaud the NPS for its efforts to manage the Preserve in such a manner that preserves, protects, and interprets for the public a remnant of the once vast tallgrass prairie ecosystem. We appreciate the opportunity to provide the above comments and look forward to reviewing the final management plan.

Sincerely,

Tommy Berger
Tommy Berger
Kansas Wildlife Federation

Myra Wilensky
Myra Wilensky
Regional Organizer

cc: ITBC

Responses

8. The commentor is correct. Text on page 34 has been changed to reflect that some species lack sufficient predators to adequately and naturally control their population.
9. We agree there are many places in Kansas where cattle grazing can be viewed. However, the places where opportunities exist for the public to learn about ranching (both historic and contemporary), and about the activities of the people who earn their livelihood here, are limited. The General Management Plan seeks to provide such an opportunity.
10. Except for up to 180 acres, which will be donated to the National Park Service, the preserve will remain in private ownership with the National Park Trust. The fees for the current cattle grazing lease were determined prior to the creation of the preserve, as explained on page 92. Any stock that may graze on the limited land owned by the federal government would be brought in primarily for demonstration purposes.
11. The interpretation and education themes to be addressed at the preserve are described on pages 12-13 of the General Management Plan. All are important to the story of the preserve. Specific details of how these themes will be implemented will be developed in the Comprehensive Interpretation Plan, to be prepared after approval of the General Management Plan.

Comments**Responses**

12. Concern about the number of bison and cattle overlooks the multi-purpose aspects of grazers functioning within their ecological role. Grazers will be used, in part, to manage, sustain, and enhance tallgrass prairie as well as to provide an interpretive "media" relating or illustrating the ecological and human ranching history of the preserve. For additional information, see also the response to the Kansas Farm Bureau's comment number 3.

Comments

Responses

FEB-22-2000 22:52

TALLGRASS PRAIRIE NPRES

P.02/02

Feb 23 2000



FOUNDED 1892

Kansas Chapter

Mike Martin - Conservation Chair
5640 S. 103 Street E.
Dorcy, KS 6703-8337
(316) 788-0084 earthmike@aol.com

February 21, 2000

James A. Leach
Acting Regional Director - Midwest Region
National Park Service
1709 Jackson Street
Omaha, Nebraska 68102

Dear Mr. Leach,

The Kansas Chapter of the Sierra Club adds its official comment to the Tallgrass Prairie National

1. The majority of the public comments indicated support for a plan such as Alternative E. Alternative E's primary focus of management activities would be a landscape dominated by unplowed tallgrass prairie with associated creeks, intermittent streams, springs and seeps. In this alternative, the natural prairie would be seen in its natural state before the introduction of human influence. This is the prairie that the public indicated that they wanted to see... a tallgrass prairie that we want to understand and witness again. Instead we are given an alternative that only 5% of public comments preferred... an option whose main focus is the cattle ranch. The Kansas Chapter of the Sierra Club is disappointed that the public did not have its overwhelming preferences heard and acted upon.
2. Only a small percentage of the land area, 10%, will have bison grazing on it. The Kansas Chapter of the Sierra Club is disappointed in this as well.
3. What is desired for the Tallgrass Preserve is what is in the mind's eye of the American public... a realistic depiction of the beauty of the original Tallgrass Prairie. This could be accomplished if a strong majority of the of the Preserve of 85% was given to bison and natural tallgrass prairie. This would include serious consideration for the introduction of pronghorn antelope and elk, which, again, is in the mind's eye of the American public. An opportunity to see bison, elk, pronghorn antelope and other wildlife in a natural prairie landscape would be one of the most significant attractions for visitors to the preserve in the future.
4. What is also desired by the Kansas Chapter of the Sierra Club and the public is a ranch component that depicts the hard work and ingenuity of the early Kansas settlers. Its focus should be primarily the existing ranch house and barn and other out buildings of historic significance.
5. The Kansas Chapter of the Sierra Club has been involved and working for its vision of the Tallgrass Prairie for over 25 years. The Kansas Chapter desires to work with the National Park Service to establish what is the expectation and vision of the American public for the Tallgrass Prairie National Preserve. We invite the National Park Service to begin this process in an open discussion with the Kansas Chapter of where we are now and how we can reach our mutual goals for the future.

Sincerely,

Mike Martin
Kansas Chapter of the Sierra Club - Conservation Chair

cc: Tallgrass Prairie National Preserve, Cottonwood Falls, Kansas

TOTAL P.02

#68 - Sierra Club

1. Public comments, along with existing scholarly and scientific information, new information developed during and for the planning effort, information obtained during consultation, and the professional judgement of planning team members and consultants were all used to develop and refine the preferred management alternative. It is unclear what document or source the commentor is referencing but the Preferred Alternative was not one of the preliminary alternatives, such as E, but evolved from them as a result of this comprehensive process.
2. Participants in the Enhancement Panel (see page 17 of the GMP) believe that to enhance the tallgrass prairie ecosystem it is important to maintain the processes that allow for its full expression; it is less important to focus only on increasing the number of species present. They suggest that in order to allow for the full expression of the tallgrass prairie ecosystem, elements of randomness should be encouraged. The complex interrelationships found within the prairie ecosystem, especially those involving fire and grazing, should be perpetuated in such a way as to ensure that the same activity (such as fire or grazing) does not occur in the same area, in the same way, at the same time, every year.

Comments**Responses**

The focus of the preferred alternative is on incorporating the key processes, fire and grazing, to increase the abundance of dominant native species, maintain characteristic populations of rare species and key functional groups, and reduce or eliminate exotic species. This would be achieved in part through the use of fire and different grazing regimes in various combinations that vary over time and location, creating a dynamic and heterogeneous landscape.

3. The commentor is referred to #2 above. The subject of the restoration of native wildlife populations has been adequately treated for the scope of the GMP. Detailed discussions regarding the feasibility of introducing animal species are beyond the scope of this plan. Some species, such as elk and pronghorn antelope, are discussed on page 32 of the GMP and within an attachment to the Kansas Department of Wildlife and Parks comment letter dated February 8, 2000. Consideration of other species would depend on their historic range, public controversy, land area and home range, and other issues too detailed for the GMP. However, it is believed that the preferred alternative would result in an increase in the number and variety of native wildlife species.

Comments**Responses**

4. Comment acknowledged. The commentor is referred to the Preferred Alternative and to the description of the Flint Hills Ranching Legacy Area.
5. Public involvement in preparing this initial GMP for Tallgrass Prairie National Preserve has been extensive. Since the GMP process was initiated in June 1997, five newsletters have been produced, all of which encouraged public feedback. Seventeen open houses have been held at several sites in Kansas to update the public on planning and to invite their comments.

Comments

Responses

Open House Comment Sheet

received 12/2/99

(7)

The purpose of these open houses is to discuss and solicit comments from you regarding the Draft General Management Plan (GMP) and Environmental Impact Statement (EIS) for the Tallgrass Prairie National Preserve. Comments regarding any portion(s) of the document would be very helpful and will be considered by the planning team as the GMP/EIS is finalized in the coming months.

Comment sheets can be placed in the drop-off box during this open house, or can be mailed to: Superintendent, Tallgrass Prairie National Preserve, P.O. Box 585, Cottonwood Falls, KS 66845. If mailed, the comments should reach the National Park Service by January 18th, 2000. Thank you for your interest in Tallgrass Prairie National Preserve!

Comments (Use back and/or additional sheets if necessary)

1. 1. The NPS should control the entire 11,000 acres.
2. 2. The preserve needs to be 33,000 acres.
a. Introduce more species:
1. Elk
2. Antelope
3. 3. Legislation needs to be improved to allow acquisition of more acreage.
4. 4. Include & introduce the black-tailed prairie dog or another species of prairie dog that would be suitable for this habitat.
5. 5. What guarantees that the N.P. Trust won't sell off part of the property?
6. 6. How does the N.P. Trust feed the generation of their part?

NAME: Steve Baro

REPRESENTING (IF ANY): Sierra Club, Kansas Chapter

ADDRESS: 13114 W. 125 Terr.

CITY, STATE, ZIP: Overland Park, K 66213

☐ The National Park Service is required to make comments, including names and home addresses of the commenters, available for public review. Private individuals may request that we withhold their name and home address from the planning record. If you wish us to withhold your name and address, please check this box: We will honor your request to the extent allowable by law. All submissions from organizations or businesses and from persons identifying themselves as representatives or officials of organizations or businesses will be available for public review in their entirety. We can not consider anonymous comments.

#7 - Sierra Club, Kansas Chapter

1. Comment noted. 16 U.S.C. § 698u-4(a) limits the total land the National Park Service can acquire to 180 acres.
2. Comment noted. Any expansion of the preserve's boundary would require an act of Congress. As part of preparing this GMP, the planning team evaluated the adequacy of the preserve's boundaries to protect resources and provide for visitor use. It is the team's opinion that the current boundaries are adequate.
3. Comment noted.
4. According to Dr. Elmer J. Finck, Associate Professor of Biological Sciences at Emporia State University, "...prairie dogs were not native to the area of the preserve and only known historically from a few counties in western Kansas." (Personal Communication, 4/06/2000)
5. Under the existing legislation almost all of the preserve will remain as private property. As such, the future ultimately will be up to the property owner, the National Park Trust (NPT). The NPT can make any changes it feels would be beneficial to the organization and to the long-term management of the property.
6. As a private organization, release of such information is at the discretion of the NPT.

Comments

Responses

Author: NPS WebMaster <paul_handly@nps.gov> at np--internet
Date: 01/18/2000 5:03 PM
Normal
Subject: Web Form Submission

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----- Message Contents

Web Form Responses from the following file:
<http://www.nps.gov/tapz/gmpcom4.html> comments: The Kansas Chapter of The Wildlife Society applauds your efforts on the excellent Draft General Management Plan. We are very pleased about the ideas relative to the addition of bison and the possible reduction of farm ponds where appropriate. We prefer Alternative E over all the options because it seems to have the best mix of possibilities and has limited overnight use. The latter could be a potential nightmare. Our support after Alternative E is weak, but our next preference is for the Preferred Alternative, which we suggest has a much greater emphasis on cattle than we would like to see. While we are very supportive of the ranching community, our support for this option is weaker. We are opposed to Alternative B. We think there is too much intended use of the site with that alternative.

We acknowledge the daunting task you face because one area the size of TPNP cannot or any size for that matter cannot replicate all the tallgrass ecosystem nor can it contain all the activities of the tallgrass prairie and cultural activities associated with the prairie.

name and address: Elmer J. Finck
Kansas Chapter of The Wildlife Society
Division of Biological Sciences
Box 4050
Emporia State University
Emporia, KS 66801-5087
organization: Kansas Chapter of The Wildlife Society
207 Cheyenne
New Strawn, KS 66839
representative: YES
withhold: NO

#41 - The Wildlife Society, Kansas Chapter

Thank you for your comments

Citizen Comments

Input received from citizens included many excellent comments and recommendations. Many letters, however, contained similar comments or repeated comments received from organizations or other government agencies. Therefore, as allowed under federal regulations for preparing final environmental impact statements, the most frequent substantive comments are summarized and responded to below. Other comments received from citizens are answered as part the responses to agency and organization comments on the pages that follow. All comments were analyzed by the NPS planning team in preparing the final plan and environmental impact statement.

Cultural Resources Issues

Comment: Commentors expressed varying opinions about the appropriate period of historical significance for the preserve.

Response: Clarification of one or more periods of significance has been addressed under the discussion of the "Preferred Alternative," page 29. A definition of the term "period of significance" has been added to "Appendix 7--Definitions." Determining periods of significance at local, state or national levels includes development of professionally researched and prepared historical contexts. It applies National Register of Historic Places criteria to evaluate the ability of existing cultural resources to represent such contexts.

Comment: Commentors expressed concern regarding the potential removal of various structures or other elements on the cultural landscape. Others advocated removal of certain elements associated with the cultural landscape.

Response: Certain 20th century resources have been determined through professional evaluations to be significant for representing the state and local history of cattle ranching in the Flint Hills, and are eligible for listing on the National Register of Historic Places. Preservation and interpretation of these and the nationally significant resources are clearly identified in the mission and significance statements for the preserve. Specific proposed actions to the preserve's historic cultural resources will be developed out of future planning documents, such as cultural landscape reports, historic structure reports, and resource management plans. A reasonable opportunity for comment by the State Historic Preservation Office, the Advisory Council on Historic Preservation, and interested parties shall be provided for any activities that may affect the preserve's historic cultural resources. This is mandated by Section 106 of the National Historic Preservation Act that requires such review for proposed actions which have the potential to affect resources listed on or eligible for the National Register, and that involve or are under the jurisdiction of federal agencies.

Natural Resources Issues

Comment: Concern was expressed about the elimination of dams and ponds.

Response: No specific dams or ponds are the target of removal. The plan does call for the evaluation of such areas based on specific criteria outlined on page 30 of the General Management Plan. It also states "Some stock ponds found to be of low value based on this evaluation may be removed and, where feasible, the areas restored to prairie."

Comment: Concern was expressed about the use of an early intensive grazing regime.

Response: The plan does not call for complete removal of early intensive grazing as a management action. However, under all alternatives the direction is to maintain and enhance the tallgrass prairie in part through the use of historic and contemporary grazing regimes (GMP page 24). Additionally, while some divergent opinions exist regarding early intensive grazing and plant diversity, it has been shown to be a productive grazing system for Flint Hills ranches where diversity is not of paramount concern. (NPS 1998 Enhancement Report)

Comment: Concern was expressed that too much area was being considered for ranching activities and that more area should be devoted to restoration of prairie ecosystem, especially bottomland prairie.

Response: Page 29 of the GMP discusses one of the fundamental ideas that form the basis of the Preferred Alternative: "to preserve, protect, and interpret for the public a remnant of the once vast tallgrass prairie ecosystem." While the size of the four management areas and the actions associated with each has elicited a series of widely varied comments, the actions recommended for this GMP remain focused on the fundamental idea of preserving and protecting the tallgrass prairie within the preserve. Additionally, restoration of the land along Fox Creek is recommended to allow for the establishment of rare bottomland prairie communities.

Comment: Concern was expressed about how the existing grazing lease might affect public access to the preserve.

Response: All ungulate uses of the preserve will involve reasonable limitations on access to the portions of the preserve being grazed, for obvious reasons of public safety and to avoid undue interference with commercial and non-commercial grazing operations for cattle and bison. The preserve landowner believes the Bass lease contains satisfactory assurances for public access to permit accomplishment of the main objectives of the GMP. The Bass lease also contains provisions allowing the lessor to exclude portions of the preserve from grazing.

Comment: Some commentors expressed concern about the potential introduction of grizzly bears or wolves to the preserve. Other commentors advocated introduction of elk, pronghorn antelope, or prairie dogs.

Response: Detailed discussions regarding the feasibility of introducing animal species are beyond the scope of this plan. Some species, such as elk and pronghorn antelope, are discussed on page 28 of the GMP and within an attachment to the Kansas Department of Wildlife and Parks comment letter (in this section) dated February 8, 2000. Consideration of other species would depend on their historic range, public controversy, required acreage, and home range.

Comment: There was diverse opinion about what grazing animals should or should not be allowed on the preserve. Some commentors wanted only bison; others wanted no bison at all. Other commentors suggested the proposed size of the initial bison herd is too small. Still other commentors advocated that all cattle be removed, and suggested that cattle on the preserve is inconsistent with the park's enabling legislation and the intent to allow for prairie restoration.

Response: As stated on page 24 of the GMP, the home range requirements for native species, the limited area of the preserve, and lessons learned from the Kansas Department of Wildlife and Parks (February 8, 2000 comments on GMP), led the team to recommend considering only bison as an introduced species for the duration of this planning effort.

Specific concerns over bison introduction such as density, area, and rationale for such action will be discussed in detail within the Bison Management Plan described on pages 34 and appendix 2 of the GMP. Public participation will be an integral part of the planning process. The National Park Service believes that continued grazing of cattle on the preserve is consistent with Public Law 104-333, and can contribute to the heterogeneous management strategy necessary to establish and maintain a healthy prairie ecosystem.

Comment: Commentors expressed a desire to view true "tall grass."

Response: Fields associated with the Fox Creek riparian area will be restored to bottomland prairie with species common to deeper soils and wetter sites which would allow for the expression of tallgrass species ranging in height from six feet (1.83 meters) or more. (GMP, page 24)

Comment: The suggestion was offered that the preserve be designated as "wilderness"

Response: The term "designated wilderness" implies specific management directions and restrictions under the Wilderness Act that would run counter to the legislation authorizing the preserve. So long as the land is privately owned and the owner has a lease agreement with another private party to allow rangeland use, the area does not qualify for "wilderness" designation.

Comment: One commentor urged restoration of spring/seep habitat.

Response: Springs, seeps, and their associated streams would be provided additional protection if found to contain unique or rare native plant or animal species. (GMP page 30) Additionally, the 1998 National Park Service Enhancement Report recognizes those areas as 'hot spots' for biodiversity on the prairie landscape.

Visitor Services/Visitor Use Issues

Comment: A suggestion was offered that 1870s cowboys be portrayed through a "living history" exhibit.

Response: The preserve's enabling legislation calls (in part) for an emphasis on the ranching legacy of the Flint Hills. It is assumed that the ranching legacy will include the history of cowboys working on the ranch during the designated period of significance. Details on cowboy history and their story will be developed further in the Comprehensive Interpretation Plan.

Comment: One commentor questioned the rationale for excluding Deer Park Place as an interpretive site.

Response: Though portions of the former Deer Park Place are included within the boundaries of the preserve, the main house remains in private ownership. It would not be feasible to include the entire group of buildings as a visitor or interpretive site. Reference to the ranch and its historic relationship to the rest of the preserve will be developed further in the Comprehensive Interpretation Plan.

Comment: A recommendation was made that modern ranching be interpreted in addition to historic ranching.

Response: The preserve's enabling legislation calls for (in part) an emphasis on the ranching legacy of the Flint Hills. It is assumed that the ranching legacy will include the history of ranching during the entire period of significance as suggested in the Historic Resource Study. Details on ranching history will be developed further in the Comprehensive Interpretation Plan.

Comment: A number of comments were received supporting broad public access to the preserve. A few comments recommended very limited access. Many commentors advocated that one or more recreational activities be provided for on the preserve. Some included specific recommendations about where recreational activities should or should not occur.

Response: Commentors are referred to the description of the preferred alternative, and to actions common to all actions alternatives, for an explanation of the types of visitor activities, facilities, and modes of access that will be provided for by this GMP. A

prescription found under the actions common to all action alternatives has been edited to clarify the types of activities that are appropriate for the preserve:

"A variety of visitor activities and facilities, appropriate for a national preserve, would provide for a range of opportunities, time commitments, and levels of physical exertion. 'Appropriate' is defined as an activity or facility that (1) is consistent with the purposes for which the preserve was established, (2) has no more than nominal impact on the natural and cultural resources of the preserve, and (3) does not conflict with another appropriate visitor use."

Comment: One person wanted assurances that bison would be accessible to visitors.

Response: Page 34 of the GMP states that visitors would be able to see bison in a tallgrass setting and to observe their effects on the prairie.

Miscellaneous Issues

Comment: A suggestion was made that as many existing roads within the preserve as possible be eliminated.

Response: The commentor is referred to the Preferred Alternative, Preserve Wide guidelines 7 and 8 (Page 30) for a discussion on roads and the criteria for their continued use or removal. Also, see the last paragraph on Page 35 for the specific road management criteria for the Prairie Landscape Area, which includes road removal.

Comment: A citizen suggested that certain alternatives supported by the enhancement panel and the sustainable management panel were rejected and not reflected in the GMP.

Response: Public comments, existing scholarly and scientific information, new information developed for and during the planning effort, information obtained during consultation, and the professional judgement of planning team members and consultants were all used to develop the preliminary management alternatives and the preferred management alternative. The preferred was not one of the preliminary alternatives but evolved from them as a result of this comprehensive process.

The GMP planning team used the conclusions, recommendations, and conceptual models of the panels along with the other information outlined above to develop a range of practical and reasonable alternatives for the long-term management of the preserve, preservation of its resources, and development of visitor use and services.

Comment: Concern was expressed that State Highway 177 through the preserve is hazardous and needs to be widened.

Response: Safety concerns related to Highway 177 are acknowledged on page 78 of the plan. Planning for the future of the highway is beyond the scope of the GMP. However, the National Park Service will coordinate closely with the Kansas Department of Transportation to resolve deficiencies and provide for the safety of motorists and preserve visitors.

Comment: A suggestion was offered that mineral rights on the preserve be purchased.

Response: Public Law 104-333 limits Federal acquisition authority on the preserve to no more than 180 acres of real property and the improvements on the real property. Further, that land can only be acquired through donation. The NPS does not have authority to acquire mineral rights. The landowner, National Park Trust, may be able to acquire those rights if opportunities develop. Further, Section 1005(g)(3)(G) of the legislation states that the General Management Plan is to contain provisions to honor existing oil and gas leases within the preserve.

Comment: One commentator suggested that fund raising be used to develop funds to buy out the grazing lease.

Response: Though it is not an action element of the GMP, the National Park Trust currently is preparing a fund raising campaign; one objective of that campaign is to purchase those portions of the leases necessary to help ensure successful implementation of the plan

APPENDIX 1 – STUDIES COMPLETED, UNDERWAY, NEEDED

Cultural Resources

Studies Completed

Archeological Overview and Assessment (1999)
 Barn Collection Inventory, Initial Assessment and Treatment (1998)
 Cultural Landscape Report - Part I (CLR) (2000)
 Historic Resource Study (HRS) (2000)
 Interim Scope of Collections Statement (2000)
 Legislative History Report (1999)

Studies Underway

Condition Assessment Report of Historic Structures (due date: 2000)
 Cultural Landscape Inventory (CLI)
 Cultural Landscape Report - Part II (CLR)
 Ethnobotany Report (due date: 2000)
 List of Classified Structures (LCS)

Studies Needed

Applies to Preferred Alternative and Alternative B, C, D, and E unless otherwise noted.

| TITLE COSTS | ONE-TIME COSTS | RECURRING/ANNUAL |
|--|--|------------------|
| Archeological Survey | \$ 350,000 over 5 years | |
| Archeological Evaluation Study | \$ 150,000 over 3 years | |
| Cultural Sites Inventory | \$ 15,000 | |
| Comprehensive Ethnobotany Study | \$ 50,000 (if multi-park) | |
| Ethnographic Oral and Life Histories | \$ 50,000 | |
| Ethnographic Overview and Assessment | \$ 75,000 | |
| Ethnohistory | \$ 50,000 | |
| HABS-Standard Documentation of Structures and Sites | \$ 153,000 (can be completed over a number of fiscal years) | |
| Historic Furnishing Report | \$ 50,000 | |
| Historic Sites Survey | \$ 60,000 | |
| Historic Structures Report- Ranch Headquarters | \$ 250,000 | |
| Preserve Administrative History | \$ 50,000 | |
| Collections Management | | |
| Collection Management Plan | \$ 10,000 | |
| Collection Storage Plan | \$ 6,500 | |
| Condition Conditions Survey | \$ 20,000 | |
| Fire Protection Survey | \$ 11,000 | |

APPENDICES

| | |
|-----------------------------------|-----------|
| Program Development | \$ 10,000 |
| Relative Humidity and Temperature | \$ 5,000 |
| Security Surveys | \$ 11,000 |

Routine care and management of the collections would be accomplished by cultural resources positions that are included in the estimated personnel costs (Appendix 5), and by Regional personnel.

Natural Resources

Studies Needed

Applies to Preferred Alternative and Alternatives B, C, D, and E unless otherwise stated.

| Title | One-Time Costs | Recurring Annual Costs |
|---|----------------|------------------------|
| Baseline Data | | |
| Insects | \$ 40,000 | |
| Bird Species springs/seeps | \$ 7,000 | |
| Small Mammals, burned and unburned areas | \$ 50,000 | |
| TOTAL | \$ 97,000 | |
| Distribution and Habitat | | |
| Assessment of Topeka Shiner | \$ 17,000 | |
| Effects of Grazing and Fire on Grassland Birds | \$ 60,000 | |
| Effects of Management Practices on Herpetofauna | \$ 64,000 | |
| Exotic and Noxious Weed Assessment | \$ 58,000 | |
| Fire History and Chronology of Gallery Forest and Riparian Area | \$ 30,000 | |
| Invertebrate Bioindicators of Prairie Integrity | \$ 55,000 | |
| Select Small Mammal Survey | \$ 49,000 | |
| Springs and Seeps Inventory | \$ 50,000 | |
| Stock Ponds and Related Watersheds Survey | \$ 35,000 | |
| Vegetation Trends | \$ 15,000 | |

Day to day resource management activities and responsibilities would be carried out by the natural resource management/protection positions identified in the estimated personnel costs (Appendix 5) and by Regional personnel.

Studies Underway

Aquatic Sampling (Ongoing)

Studies Completed

Avian Inventory (2000)

Fixed Point Repeat Photography (1997-1999)

Riparian Communities Comparative Summary (1999)

Prairie Community (Vegetation) Summary (1999)

APPENDIX 2 – PLANS COMPLETED, UNDERWAY, NEEDED

General

Comprehensive Interpretation Plan (Needed)

The Comprehensive Interpretation Plan forms the overall vision and basis for decision-making relating to interpretation in a park. It provides both a long-range and short-range view and deals with all media, including personal services. The Comprehensive Interpretation Plan is a collection of the various planning documents and databases developed for interpretation in a park and is the blueprint from which the park's interpretive future is built.

Integrated Pest Management (IPM) Plan (Needed)

The plan articulates the selection, integration and implementation of pest management methods based on predicted economic, ecological, and sociological consequences. IPM is a decision-making process that helps decide if a treatment is necessary and appropriate, where the treatment should be administered, when the treatment should be applied, and what strategies should be integrated for immediate and long-term results.

Financial Analysis (Completed)

The financial analysis is a requirement of the legislation establishing the preserve. It is to be completed as a part of the development of the GMP. The analysis would indicate how the management of the preserve might be fully supported by other than federally appropriated funds such as fees, private donations, and other forms of non-federal funding.

Resource Management Plan (Underway)

A Resource Management Plan (RMP) would be developed following the preparation and approval of the GMP. It would incorporate the management direction provided by the GMP. The plan would detail the status of the park's natural and cultural resource programs and would articulate and detail the need for research inventories, monitoring, and other programs, including sociological needs.

Visitor Experience and Resource Protection Plan (Needed)

The Visitor Experience and Resource Protection (VERP) program, which is used to address carrying capacity for NPS units, consists of four key elements: (1) a parkwide management zoning scheme (established through evaluation of the alternatives) that defines visitor experience and resource condition goals for each area of the park, (2) selection of indicators that can be monitored to ensure that the goals are being met, (3) a systematic monitoring program, and (4) standards for each indicator that is expected to warn when conditions merit management action. Research will identify meaningful indicators and standards that can be used to ensure provision of quality experiences while protecting park resources. The indicators and standards will be developed, and the public will have an opportunity to comment on them.

Cultural Resources

Archeological Data Recovery Plan (Needed)

If proposed park development will have an effect on archeological resources, *NPS Management Policies* require that "all reasonable measures to limit adverse effects will be taken, including recovery of data and salvage of materials, as appropriate." Such mitigation, usually stipulated during Section 106 compliance, provides for a data recovery project that involves data collection (excavation, documentation, and surface collection of artifacts), data analysis, report production, and preservation of recovered materials and associated records. Each mitigation project will be designed in consultation with the SHPO. It will recover the full range of significant archeological information that otherwise would be lost and will preserve *in situ* as much of the scientific research potential of the resource as is practicable.

Collection Condition Survey (Needed)

A Collection Condition Survey (CCS) is a planning tool rather than a specific plan. Conducted by a professional conservator, it reports the condition of all or part of a museum collection. It creates a baseline reference for future assessment of object deterioration and identifies objects in need of conservation treatment by degree of urgency.

Collection Management Plan (Needed)

A collection management plan (CMP) provides short-term and long-term guidance to park and archeological center staffs in the management and care of museum objects and archival and manuscript collections. Every park with a museum collection should have a CMP. Parks with small collections may require only a brief plan while parks with large, complex collections may require a more extensive plan. CMPs are prepared by teams of NPS curators or by contractors and are approved by the park superintendent.

Collection Storage Plan (Needed)

A collection storage plan (CSP) is a stand-alone document that guides collection storage at a park. A CSP may be prepared to solve one or more problems in an existing storage facility, to guide renovation of an existing space into a storage facility, or to guide design of a new storage facility. When appropriate, a recently prepared CSP may be included as part of a CMP, which always addresses museum collections storage needs. In some instances the museum collections storage chapter of a CMP may recommend the subsequent preparation of a detailed CSP, although a CMP's storage chapter is usually sufficient for park planning and development purposes. (For detailed guidance, see the *Museum Handbook*, Part I, Chapter 7.)

Cultural Landscape Report – Treatment (Needed)

A cultural landscape report (CLR) is the primary guide to treatment and use of a cultural landscape. Based on the historic context provided in a historic resource study, a CLR documents the characteristics, features, materials, and qualities that make a landscape eligible for the National Register. It analyzes the landscape's development and evolution, modifications, materials, construction techniques, geographical context, and use in all periods, including those deemed not significant. Based on the analysis, it evaluates the significance of individual landscape characteristics and features in the context of the landscape as a whole. Typically interdisciplinary in character, it includes documentation, analysis, and evaluation of historical, architectural, archeological, ethnographic, horticultural, landscape architectural, engineering, and ecological data as appropriate. It makes recommendations for treatment consistent with the landscape's significance, condition, and planned use.

Historic Furnishings Report and Plans (Needed)

A historic furnishings report (HFR) provides a history of a structure's use and documents the type and placement of furnishings to a period of interpretive significance. If a decision is made to furnish a historic structure, a detailed plan section lists each recommended item. The HFR provides guidance for the care and maintenance of furnishings that are exhibited in the structure, including specific instructions for the care of newly acquired objects. This information can be incorporated by the park in its preventive conservation program. The HFR also recommends appropriate levels of historic housekeeping for interpretation.

Historic Structure Report (Needed)

The historic structure report (HSR) is the primary guide to treatment and use of a historic structure and may also be used in managing a prehistoric structure. A separate HSR should be prepared for every major structure managed as a cultural resource. Groups of similar structures or ensembles of small, simple structures may be addressed in a single report. The restoration, reconstruction, or extensive rehabilitation of a structure is not undertaken without an approved HSR.

Natural Resources

Bison Management Plan (Needed)

Prior to the introduction of bison to the preserve, a bison management plan would be developed. The plan would address the development of facilities, fencing, and handling procedures; animal health monitoring and maintenance; herd management, including breeding and genetic diversity; disposal of surplus animals; visitor-animal interactions; safety; and pasture monitoring and management. The management actions developed in the bison management plan would be incorporated into the RMP.

Vegetation Management Plan (Needed)

Vegetation management plans, such as the Bottomland and Riparian Restoration Plan, are project statements or subsidiary action plans within the RMP. As such, they further detail the goals and objectives for vegetation established in the RMP. They describe the vegetation, set specific management policies and objectives, identify management techniques and research needs, and provide for long-term monitoring to identify and mitigate impacts on park ecosystems. They set the standards by which success can be measured. Overall, they provide for long-term program direction.

Fire Management Plan (Needed)

The plan would provide a framework for the NPS to cooperate with park neighbors and others to implement a heterogeneous fire regime. Such topics as program objectives; fuel management; burn frequency and prescriptions; natural prescribed fire; monitoring and researching fire effects; safety; and equipment use and personnel needs would be addressed. Recommended management actions developed in the fire management plan would be incorporated into the RMP.

Water Resource Management Plan (WRMP) (Needed)

The WRMP supports the NPS decision-making process related to the protection, conservation, use, and management of a park's water resources such as seeps, springs, fords, and streams. The WRMP structures and uses information about the park's hydrologic resources to assist management in evaluating alternatives concerning water resources issues. The WRMP is a dynamic document that is revised periodically. In general, the WRMP provides a blueprint for the resolution of park water resources issues over a three to five year period.

APPENDIX 3 – DEVELOPMENT AND TREATMENT COSTS

The following costs for development and treatment associated with the preferred alternative include new construction, restoration, and stabilization/repair of historic buildings. These figures are based primarily on Class C estimates. A Class "C" estimate is a conceptual cost estimate based on square foot costs of similar construction or identifiable unit costs of similar construction items. These estimates may be prepared without a fully defined scope of work. There are many considerations in preparing a Class "C" estimate, such as job location, material suppliers, labor availability and wage rates, season of construction, geographic areas and difficulty of terrain. In addition, it is important to understand the anticipated square footage and building type; site development including existing and proposed utilities; mechanical and electrical needs (e.g., will the structure be heated and/or cooled?); structural systems; and construction constraints or unusual site conditions.

Other costs are based on comparative costs for similar development at other parks in the Midwest Region. They are meant to provide a very general idea of costs, as the preferred alternative does not provide enough detail for specific treatment of historic structures and landscapes, infrastructure development, extent/design of roads or trails, utilities, or the design and use of a visitor center or maintenance facility. Subsequent action plans and studies, including the Bison Management Plan, RMP, HSR, and CLR Part I and II, will provide project priorities, specific direction, and treatments. The cost to the NPS for many actions could be less than shown, and depend upon actual design, contributions by the private sector and other federal and state agencies, and volunteer labor.

The costs for treatment of historic structures are based on "rehabilitation," as provided in Class C estimates. In the absence of determinations for specific treatment of each resource, rehabilitation costs are being used as a median cost between stabilization and restoration. Some historic structures, such as the Spring Hill ranch house, and the barn, would involve more complicated and expensive preservation plans than the more simple outbuildings such as pole sheds, the ranch house privy, or the scale house. Some historic resources may not receive any preservation treatment, based on the conclusion of the HSR, and the CLR.

Class C cost estimates are based on Fiscal Year 2000 costs and do not include costs for hazardous material survey and abatement; archeological survey, testing and monitoring; utility design, approval and tie into outside utility systems; architectural research and investigation; cultural landscape research and investigation; design services; overhead and profit; or interpretive planning, design, production and installation.

When calculating the gross construction costs the following percentages should be applied:

| | |
|-----------------------|-----|
| Design related | |
| PREDESIGN | 5% |
| DESIGN | 10% |
| SUPPLEMENTAL SERVICES | 2% |

| | |
|----------------------|-----|
| Construction Related | |
| PROJECT SUPERVISION | 8% |
| CONTINGENCIES | 10% |

Using the net construction totals, ADD 35% to calculate gross costs.

General Development Costs - Preferred Alternative

| Action | Cost Estimates |
|---|---------------------|
| Replace deteriorated and unsafe sewer systems | \$50,000 |
| Install vault toilets for visitor use | \$34,000 |
| Install water system to provide fire suppression and potable water for the public | \$1,334,000 |
| Improve/harden stream crossings (Estimate 5 crossings, one lane, 12'x40'x6" thick) | \$140,000 |
| Improve roadbed between development area and ranch headquarters area for shuttle service. (Estimate 5-mile stretch @ \$500,000 and three precast, 2-lane concrete bridges @ \$210,000) | \$710,000 |
| Improve interior road surfaces for shuttle bus (Based on minimal development of 5 miles, one lane, @ \$65,000/mile for reconditioning existing roads) | \$325,000 |
| Improve foot traffic trails around Ranch headquarters area and provide benches (Estimate 2.5 miles including trail to school, wood chip surface, 5 benches @ \$1000 each) | \$32,000 |
| Low impact campground development (Estimate 3 units @\$1900/site) | \$6,000 |
| Install livestock handling facility | \$300,000 |
| Install "Bison Fence" (Estimate 8 miles of 7' tall, woven wire) | \$280,000 |
| Reestablish historic orchards (10 acres @ \$10,000/acre) | \$100,000 |
| Restore bottomland prairie | \$100,000 |
| Stabilize and preserve unsafe stone retaining walls, fences, steps in the historic area | \$202,000 |
| Replace roofs on historic ranch house and barn | \$45,000 |
| Install intrusion/fire detection systems in historic house and barn | \$98,000 |
| Improve electrical utilities to ranch headquarters area | \$60,000 |
| Improve storage of historic objects and documents | \$35,000 |
| Develop visitor center (Estimate 10,000 sf., capable of serving as primary contact center, auditorium, curatorial and storage space, admin offices, @ \$400/sf for construction plus furnishings) | \$7,200,000 |
| Develop maintenance facility (Estimate 3,000 sf., capable of providing garage space for two vehicles, workshop, offices, storage space, @ \$225/sf.) | \$675,000 |
| Storage/Shuttle Building (Estimate 3,000 sf @ \$125/sf) | \$375,000 |
| Outdoor amphitheater | \$250,000 |
| Water System for new buildings (Estimate 5,000 lf @ \$100/lf) | \$500,000 |
| Sewer System for new buildings (Estimate 5,000 lf @ \$100/lf) | \$500,000 |
| Electrical (underground) System for buildings | \$50,000 |
| Parking 150 cars @ \$2,000/car and 10 buses @ \$10,000/bus | \$400,000 |
| Entrance Road to visitor center/administration building complex | \$300,000 |
| Equipment and supplies | \$100,000 |
| Buses/shuttles (alternative fuel) (2 vans @ \$50,000/each; 3@\$100,000 /each for three small transit buses) | \$400,000 |
| Automated National Catalogue System (ANCS) -- collection records | \$8,000 |
| TOTAL | \$14,509,000 |

Historic Structure Rehabilitation – Preferred Alternative

(Final costs are dependent on recommendations in HRS, CLR, and Comprehensive Interpretive Plan)

| Structure | Quantity | Unit Price | Total Estimates |
|--|-----------------------------|------------|-----------------|
| Spring Hill Ranch House (S.H.R.) (including root cellar, tunnel and spring house) | 2,050 sf | \$225/sf | \$461,000 |
| S.H.R. privy | 60 sf | \$50/sf | \$3,000 |
| S.H.R. smoke house | 60 sf | \$50/sf | \$3,000 |
| S.H.R. cistern | 225 sf | \$50/sf | \$11,000 |
| S.H.R. "chicken house" | 624 sf | \$50/sf | \$31,000 |
| S.H.R. ice house | 144 sf | \$70/sf | \$10,000 |
| S.H.R. carriage house | 600 sf | \$50/sf | \$30,000 |
| S.H.R. scratch shed | 654 sf | \$50/sf | \$33,000 |
| S.H.R. connected sheds | 1536 sf total | \$25/sf | \$38,000 |
| S.H.R. Quonset Hut | 1560 sf | \$25/sf | \$39,000 |
| S.H.R. barn | 6,600 sf, 3 stories | \$150/sf | \$990,000 |
| S.H.R. silo | 2642 sf | \$25/sf | \$66,000 |
| S.H.R. stone corral walls | 900' L.F., 2' wide, 5' high | \$5/cf | \$45,000 |
| S.H.R. shed in corral | 408 sf | \$25/sf | \$10,000 |
| S.H.R. vet shed | 585 sf | \$25/sf | \$15,000 |
| S.H.R. scale house | 56 sf | \$50/sf | \$3,000 |
| Schoolhouse | 720 sf | \$70/sf | \$50,000 |
| Schoolhouse privy | 20 sf | \$70/sf | \$1,000 |
| Stone fences | 10 miles | \$5/cf | \$2,640,000(**) |
| Field box cars (3) | 350 sf each | \$5/sf | \$5,000 |
| Fox Creek bridge | 55' x 14' | LUMP SUM | \$250,000 |
| Small stone bridge | 50' x 8' | LUMP SUM | \$100,000 |
| Lantry tile barn | 1,928 sf | \$50/sf | \$96,000 |
| Lantry poultry house | 1,550 sf | \$50/sf | \$78,000 |
| Lantry barn | 2327 sf, two stories | \$150/sf | \$349,000 |
| 1952 spring box & trough | 378 sf | \$50/sf | \$19,000 |
| Red House Ruin | 521 sf | LUMP SUM | \$25,000 (*) |
| Low water bridge | 51' x 18'6" | LUMP SUM | \$60,000 |
| Pole barn near Lantry | 3,700 sf | \$2.50/sf | \$9,000 |
| TOTAL | | | \$5,470,000 |

(*) Includes archeology + \$5,000 stabilization

(**) Assumes that some sections of stone fence may be rebuilt for enclosure use of pastures, and use as a firebreak.

Interpretation and Education – Preferred Alternative

| Action | Unit Cost | Total Estimates |
|---|--------------------|-----------------|
| Publications Park Handbook (Harpers Ferry Center produced - NPS black band format) | | \$ 60,000 |
| Wayside Exhibits | | \$175,000 |
| Visitor Center Exhibits/Furnishings | | |
| Information Desk area | 800 sf @ \$100 sf | \$ 80,000 |
| Exhibit area | 2200 sf @ \$450 sf | \$990,000 |
| Theatre | 1000 sf @ \$150 sf | \$150,000 |
| Bookstore | 1200 sf @ 100 sf | \$120,000 |
| TOTAL | | \$1,340,000 |
| Audiovisual Media | | |
| Interpretive Video | | \$100,000 |
| Distance Learning Facility/Equipment | | \$100,000 |
| TOTAL | | \$200,000 |
| Historic Furnishings for Schoolhouse, Ranch House, Smoke House, Barn, Quonset Hut and Carriage Garage | | \$245,000 |

General Development Costs – Alternative B

| Action | Cost Estimates |
|--|---------------------|
| Replace deteriorated and unsafe sewer systems | \$50,000 |
| Install vault toilets for visitor use | \$34,000 |
| Install water system to provide fire suppression and potable water for the public | \$1,334,000 |
| Improve/harden stream crossings (Estimate 7 crossings, one lane, 12'x40'x6" thick) | \$196,000 |
| Improve roadbed between development area and ranch headquarters area for shuttle service. (Estimate 5-mile stretch @ \$500,000 and three precast, 2-lane concrete bridges @ \$210,000) | \$710,000 |
| Improve interior road surfaces for shuttle bus (Minimal development of 10 miles, one lane, @ \$65,000/mile for reconditioning existing roads) | \$650,000 |
| Improve foot traffic trails around Ranch headquarters area and provide benches (Estimate 2.5 miles including trail to school, wood chip surface, 5 benches @ \$1000 each) | \$32,000 |
| Low impact campground development in the natural area (Estimate 3 units @ \$1900/site) | \$6,000 |
| Improved campground development in the development area (Estimate 5 standard, individual sites @ \$1600/site) | \$8,000 |
| Install "Bison Fence" (Estimate 4 miles of woven wire) | \$140,000 |
| Install Livestock Handling Facility | \$100,000 |
| Restore bottomland prairie | \$100,000 |
| Reestablish historic orchards (10 acres @ \$10,000/acre) | \$100,000 |
| Stabilize and preserve unsafe stone retaining walls, fences, steps in the historic area | \$202,000 |
| Replace roofs on historic ranch house and barn | \$45,000 |
| Install intrusion/fire detection systems in historic house and barn | \$98,000 |
| Improve electrical utilities to ranch headquarters area | \$60,000 |
| Improve storage of historic objects and documents | \$35,000 |
| Develop visitor center (Estimate 10,000 sf., capable of serving as primary contact center, auditorium, curatorial and storage space, admin offices) | \$7,200,000 |
| Develop maintenance facility (Estimate 3,000 sf., capable of providing garage space for two vehicles, workshop, offices, storage space) | \$675,000 |
| Storage/Shuttle Building (Estimate 3,000 sf @ \$125/sf) | \$375,000 |
| Outdoor amphitheater | \$250,000 |
| Water System for new buildings (Estimate 5,000 lf @ \$100/lf) | \$500,000 |
| Sewer System for new buildings (Estimate 5,000 lf @ \$100/lf) | \$500,000 |
| Electrical (underground) System for buildings | \$50,000 |
| Parking 150 cars @ \$2,000/car and 10 buses @ \$10,000/bus | \$400,000 |
| Entrance Road to visitor center/administration building complex | \$300,000 |
| Buses/Shuttles (Estimate three, with two in constant operation, @ \$50,000 each for two van conversions; @ \$100,000 for three small transit buses) | \$400,000 |
| Equipment and supplies | \$100,000 |
| TOTAL | \$14,750,000 |

Historic Structure Rehabilitation/Restoration/Preservation - Alternative B

| Structure | Quantity | Unit Price | Total Estimates |
|---|--------------------------|------------|--------------------|
| Spring Hill Ranch (S.H.R.) (including root cellar, tunnel and spring house) | 2,050 sf | \$225/sf | \$462,000 |
| S.H.R. privy | 60 sf | \$50/sf | \$3,000 |
| S.H.R. smoke house | 60 sf | \$50/sf | \$3,000 |
| S.H.R. cistern | 225 sf | \$50/sf | \$12,000 |
| S.H.R. "chicken house" | 624 sf | \$50/sf | \$32,000 |
| S.H.R. ice house | 144 sf | \$70/sf | \$10,000 |
| S.H.R. carriage house | 600 sf | \$50/sf | \$30,000 |
| S.H.R. scratch shed | 654 sf | \$50/sf | \$33,000 |
| S.H.R. connected sheds | 1536 sf total | \$25/sf | \$39,000 |
| S.H.R. Quonset Hut | 1560 sf | \$25/sf | \$39,000 |
| S.H.R. barn | 6600 sf, 3 stories | \$150/sf | \$990,000 |
| S.H.R. silo | 2642 sf | \$25/sf | \$66,000 |
| S.H.R. stone corral walls | 900 lf, 2' wide, 5' high | \$5/cf | \$45,000 |
| S.H.R. shed in corral | 408 sf | \$25/sf | \$11,000 |
| S.H.R. vet shed | 585 sf | \$25/sf | \$15,000 |
| S.H.R. scale house | 56 sf | \$50/sf | \$3,000 |
| Schoolhouse | 720 sf | \$70/sf | \$51,000 |
| Schoolhouse privy | 20 sf | \$70/sf | \$2,000 |
| stone fences | 15 miles | \$5/cf | \$3,960,000(**) |
| Field box cars (3) | 350 sf each | \$5/sf | \$6,000 |
| Fox Creek bridge | 55' x 14' | LUMP SUM | \$250,000 |
| Small stone bridge | 50' x 8' | LUMP SUM | \$100,000 |
| Lantry tile barn | 1,928 sf | \$50/sf | \$97,000 |
| Lantry poultry house | 1,550 sf | \$50/sf | \$78,000 |
| Lantry barn | 2327 sf, two stories | \$150/sf | \$349,000 |
| 1952 spring box & trough | 378 sf | \$50/sf | \$19,000 |
| Red House Ruin | 521 sf | LUMP SUM | \$25,000 |
| Low water bridge | 51' x 18'6" | LUMP SUM | \$60,000 |
| Pole barn near Lantry | 3700 sf | \$2.50/sf | \$10,000 |
| TOTAL | | | \$6,800,000 |

(*) Includes archeology + \$5,000 stabilization

(**) Assumes that some sections of stone fence may be rebuilt for enclosure use of pastures, and use as a firebreak.

General Development Costs - Alternative C

| Action | Cost Estimates |
|--|---------------------|
| Replace deteriorated and unsafe sewer systems | \$50,000 |
| Install vault toilets for visitor use | \$34,000 |
| Install water system to provide fire suppression and potable water for the public | \$1,334,000 |
| Improve/harden stream crossings (Estimate 8 crossings, one lane, 12'x40'x6" thick) | \$224,000 |
| Construct transit station? | |
| Improve roadbed between development area and ranch headquarters area for shuttle service. (Estimate 5-mile stretch @ \$500,000 and three precast, 2-lane concrete bridges @ \$210,000) | \$710,000 |
| Improve interior road surfaces for shuttle bus (Minimal development of 5 miles, one lane, @ \$65,000/mile for reconditioning existing roads) | \$325,000 |
| Improve foot traffic trails around Ranch headquarters area and provide benches (Estimate 2.5 miles including trail to school, hardened surfaces, 10 benches @ \$1000 each) | \$37,000 |
| Wood chip surface trails (Estimate 5 miles) | \$6,000 |
| Horse Trails (Estimate 10 miles) | \$270,000 |
| Low impact campground development (Estimate 6 units @ \$1900/site) | \$12,000 |
| Install "Bison Fence" (Estimate 8 miles of woven wire) | \$250,000 |
| Install Livestock Handling Facility | \$280,000 |
| Restore bottomland prairie | \$100,000 |
| Stabilize and preserve unsafe stone retaining walls, fences, steps in the historic area | \$202,000 |
| Replace roofs on historic ranch house and barn | \$45,000 |
| Install intrusion/fire detection systems in historic house and barn | \$98,000 |
| Improve electrical utilities to ranch headquarters area | \$60,000 |
| Improve storage of historic objects and documents | \$35,000 |
| Develop visitor center (Estimate 10,000 sf., capable of serving as primary contact center, auditorium, curatorial and storage space, admin offices) | \$7,200,000 |
| Develop maintenance facility (Estimate 3,000 sf., capable of providing garage space for two vehicles, workshop, offices, storage space) | \$675,000 |
| Storage/Shuttle Building (Estimating 3,000 sf @ \$125/sf) | \$375,000 |
| Outdoor amphitheater | \$250,000 |
| Water System for new buildings (Estimate 5,000 lf @ \$100/lf) | \$500,000 |
| Sewer System for new buildings (Estimate 5,000 lf @ \$100/lf) | \$500,000 |
| Electrical (underground) System for buildings | \$50,000 |
| Parking 150 cars @ \$2,000/car and 10 buses @ \$10,000/bus | \$400,000 |
| Entrance Road to visitor center/administration building complex | \$300,000 |
| Buses/Shuttles (Estimate three, with two in constant operation, @ \$50,000 each for two van conversions; @ \$100,000 for three small transit buses) | \$400,000 |
| Equipment and supplies | \$100,000 |
| TOTAL | \$14,822,000 |

Historic Structure Rehabilitation/Restoration/Preservation - Alternative C

| Structure | Quantity | Unit Price | Total Estimates |
|---|--------------------------|------------|--------------------|
| Spring Hill Ranch (S.H.R.) (including root cellar, tunnel and spring house) | 2,050 sf | \$225/sf | \$462,000 |
| S.H.R. privy | 60 sf | \$50/sf | \$3,000 |
| S.H.R. smoke house | 60 sf | \$50/sf | \$3,000 |
| S.H.R. cistern | 225 sf | \$50/sf | \$12,000 |
| S.H.R. "chicken house" | 624 sf | \$50/sf | \$32,000 |
| S.H.R. ice house | 144 sf | \$70/sf | \$11,000 |
| S.H.R. carriage house | 600 sf | \$50/sf | \$30,000 |
| S.H.R. scratch shed | 654 sf | \$50/sf | \$33,000 |
| S.H.R. connected sheds | 1536 sf total | \$25/sf | \$39,000 |
| S.H.R. barn | 6600 sf, 3 stories | \$150/sf | \$990,000 |
| S.H.R. silo | 2642 sf | \$25/sf | \$66,000 |
| S.H.R. stone corral walls | 900 lf, 2' wide, 5' high | \$5/cf | \$45,000 |
| Schoolhouse | 720 sf | \$70/sf | \$51,000 |
| Schoolhouse privy | 20 sf | \$70/sf | \$2,000 |
| stone fences | 10 miles | \$5/cf | \$2,640,000(**) |
| Red House Ruin | 521 sf | LUMP SUM | \$25,000 |
| TOTAL | | | \$4,444,000 |

(*) Includes archeology + \$5,000 stabilization

(**) Assumes that some sections of stone fence may be rebuilt for enclosure use of pastures, and use as a firebreak.

General Development Costs - Alternative D

| Action | Cost Estimates |
|---|---------------------|
| Replace deteriorated and unsafe sewer systems | \$50,000 |
| Install vault toilets for visitor use | \$34,000 |
| Install water system to provide fire suppression and potable water for the public | \$1,334,000 |
| Improve/harden stream crossings (Estimate 5 crossings, one lane, 12'x40'x6" thick) | \$140,000 |
| Improve interior road surfaces for shuttle bus and wagon rides (Minimal development of 5 miles, one lane, @ \$65,000/mile for reconditioning existing roads) | \$325,000 |
| Improve foot traffic trails around Ranch headquarters area and provide benches (Estimate 2.5 miles including trail to school, hardened surfaces, 5 benches @ \$1000 each) | \$32,000 |
| Horse Trails (Estimate 10 miles) | \$270,000 |
| Install "Bison Fence" (Estimate 20 miles of woven wire) | \$700,000 |
| Install Livestock Handling Facility | \$250,000 |
| Restore bottomland prairie | \$100,000 |
| Stabilize and preserve unsafe stone retaining walls, fences, steps in the historic area | \$202,000 |
| Replace roofs on historic ranch house and barn | \$45,000 |
| Install intrusion/fire detection systems in historic house and barn | \$98,000 |
| Improve electrical utilities to ranch headquarters area | \$60,000 |
| Improve storage of historic objects and documents | \$35,000 |
| Equipment and supplies | \$100,000 |
| Buses/Shuttles (Estimate three, with two in constant operation, @ \$50,000 each for two van conversions; @ \$100,000 for three small transit buses) | \$400,000 |
| Storage/Shuttle Building (Estimate 3,000 sf) | \$375,000 |
| TOTAL | \$ 4,476,000 |

Historic Structure Rehabilitation/Restoration/Preservation - Alternative D

| Structure | Quantity | Unit Price | Total Estimates |
|---|--------------------------|------------|--------------------|
| Spring Hill Ranch (S.H.R.) (including root cellar, tunnel and spring house) | 2,050 sf | \$225/sf | \$462,000 |
| S.H.R. privy | 60 sf | \$50/sf | \$3,000 |
| S.H.R. smoke house | 60 sf | \$50/sf | \$3,000 |
| S.H.R. cistern | 225 sf | \$50/sf | \$12,000 |
| S.H.R. "chicken house" | 624 sf | \$50/sf | \$32,000 |
| S.H.R. ice house | 144 sf | \$70/sf | \$10,000 |
| S.H.R. carriage house | 600 sf | \$50/sf | \$30,000 |
| S.H.R. scratch shed | 654 sf | \$50/sf | \$33,000 |
| S.H.R. barn | 6600 sf, 3 stories | \$150/sf | \$990,000 |
| S.H.R. stone corral walls | 900 lf, 2' wide, 5' high | \$5/cf | \$45,000 |
| Schoolhouse | 720 sf | \$70/sf | \$51,000 |
| stone fences | 5 miles | \$5/cf | \$1,320,000(**) |
| Red House Ruin | 521 sf | LUMP SUM | \$25,000 |
| TOTAL | | | \$3,016,000 |

(*) Includes archeology + \$5,000 stabilization

(**) Assumes that some sections of stone fence may be rebuilt for enclosure use of pastures, and use as a firebreak.

General Development Costs - Alternative E

| Action | Cost Estimates |
|--|----------------------|
| Replace deteriorated and unsafe sewer systems | \$50,000 |
| Install vault toilets for visitor use | \$34,000 |
| Install water system to provide fire suppression and potable water for the public | \$1,334,000 |
| Improve/harden stream crossings (Estimate 2 crossings, one lane, 12'x40'x6" thick) | \$ 56,000 |
| Improve roadbed between development area and ranch headquarters area for shuttle service. (Estimate 5-mile stretch @ \$500,000 and three precast, 2-lane concrete bridges @ \$210,000) | \$710,000 |
| Improve interior road surfaces for shuttle bus and wagon rides (Minimal development of 5 miles, one lane, @ \$65,000/mile for reconditioning existing roads) | \$325,000 |
| Improve foot traffic trails around Ranch headquarters area and provide benches (Estimate 2.5 miles including trail to school, hardened surfaces, 5 benches @ \$1000 each) | \$32,000 |
| Install "Bison Fence" (Estimate 30 miles of woven wire) | \$1,050,000 |
| Install Livestock Handling Facility | \$250,000 |
| Restore bottomland prairie | \$100,000 |
| Develop visitor center (Estimate 10,000 sf., capable of serving as primary contact center, auditorium, curatorial and storage space, admin offices) | \$7,200,000 |
| Develop maintenance facility (Estimate 3,000 sf., capable of providing garage space for two vehicles, workshop, offices, storage space) | \$675,000 |
| Buses/Shuttles (Estimate three, with two in constant operation, @ \$50,000 each for two van conversions; @ \$100,000 for three small transit buses) | \$400,000 |
| Storage/Shuttle Building (Estimate 3,000 sf) | \$375,000 |
| Outdoor amphitheater | \$250,000 |
| Water System for new buildings (Estimate 5,000 lf @ \$100/lf) | \$500,000 |
| Sewer System for new buildings (Estimate 5,000 lf @ \$100/lf) | \$500,000 |
| Electrical (underground) System for visitor buildings | \$50,000 |
| Parking 150 cars @ \$2,000/car and 10 buses @ \$10,000/bus | \$400,000 |
| Entrance Road to visitor center/administration building complex | \$300,000 |
| Install intrusion/fire detection systems in historic house and barn | \$ 98,000 |
| Improve electrical utilities to ranch headquarters area | \$ 60,000 |
| Improve storage of historic objects and documents | \$ 35,000 |
| Equipment and supplies | \$100,000 |
| TOTAL | \$ 14,885,000 |

Historic Structure Rehabilitation/Restoration/Preservation - Alternative E

| Structure | Quantity | Unit Price | Total Estimates |
|---|--------------------------|------------|--------------------|
| Spring Hill Ranch (S.H.R.) (including root cellar, tunnel and spring house) | 2,050 sf | \$225/sf | \$462,000 |
| S.H.R. privy | 60 sf | \$50/sf | \$3,000 |
| S.H.R. smoke house | 60 sf | \$50/sf | \$3,000 |
| S.H.R. cistern | 225 sf | \$50/sf | \$12,000 |
| S.H.R. "chicken house" | 624 sf | \$50/sf | \$32,000 |
| S.H.R. ice house | 144 sf | \$70/sf | \$10,000 |
| S.H.R. carriage house | 600 sf | \$50/sf | \$30,000 |
| S.H.R. barn | 6,600 sf, 3 stories | \$150/sf | \$990,000 |
| S.H.R. stone corral walls | 900 lf, 2' wide, 5' high | \$5/cf | \$45,000 |
| Schoolhouse | 720 sf | \$70/sf | \$51,000 |
| stone fences | 5 miles | \$5/cf | \$1,320,000(**) |
| Red House Ruin | 521 sf | LUMP SUM | \$25,000 |
| TOTAL | | | \$2,983,000 |

(*) Includes archeology + \$5,000 stabilization

(**) Assumes that some sections of stone fence may be rebuilt for enclosure use of pastures, and use as a firebreak.

APPENDIX 4 – STAFFING FOR PARK OPERATIONS (ONPS FUNDS) FOR 5 YEARS

This GMP has an expected life of 10-15 years. The personnel costs and annual operating costs detailed below are based on Fiscal Year 2000 dollars and represent where the preserve may be at the end of the life of this GMP. The figures were developed by analyzing the anticipated workload in the preferred alternative and by looking at developed parks that have similar operations and workloads.

PERSONNEL

| Division | Work years |
|---------------------------------|------------|
| Management and Administration | 5 |
| Maintenance | 11 |
| Resource Management/Protection | 8 |
| Interpretation/Visitor Services | <u>8</u> |
| TOTAL | 32 |

Requirements for 32 work years:

\$1.6 million that includes all associated costs such as benefits, differentials and premium pay.

ANNUAL OPERATING COSTS

\$500,000 The figure includes annual reoccurring costs such as utilities, vehicle rental and materials and supplies

A major portion of these costs may come from federal appropriated funds. However, the Financial Analysis details approaches that may be adopted to cover portions of these costs through other strategies such as fees, donations and grants.

APPENDIX 5 - APPLICABLE LAWS, EXECUTIVE ORDERS, ETC.

The following is a partial list of laws, executive orders and presidential directives applicable to the areas administered by the NPS. They apply to those areas in the preserve that will be owned by the federal government, up to 180 acres, and can, through an agreement with the property owner, apply to other areas of the preserve.

The list is meant to inform and guide people, organizations, and other local, state, and federal agency decision-makers. It has been included in the GMP in response to questions regarding the NPS's long-range management of the preserve.

American Indian Religious Freedom Act of 1978

(PL 95-341; 92 Stat 469)

The act declared "the policy of the United States to protect and preserve for American Indians their inherent right of freedom to believe, express and exercise the traditional religious of the American Indian, Eskimo, Aleut, and Native Hawaiians, including, but not limited to access to sites, use and possession of sacred objects, and the freedom to worship through ceremonial and traditional rites."

Americans with Disabilities Act

The Americans with Disabilities Act (ADA) gives civil rights protections to individuals with disabilities that are like those provided to individuals on the basis of race, sex, national origin, and religion. It guarantees equal opportunity for individuals with disabilities in employment, public accommodations, transportation, State and local government services, and telecommunications.

Antiquities Act of 1906

(PL Chapter 3060, 34 Stat 225, 16 USC 431-433)

This act authorizes the President to declare national monuments to protect sites and objects; authorizes federal departments to grant permits for survey and excavation and for gathering of "objects of antiquity" and to enforce protection of archeological sites and objects under their jurisdiction; and requires that materials excavated be permanently preserved in public museums.

Archaeological Resources Protection Act of 1979

(PL 96-95, 93 Stat 721, 16 USC 470aa-ll)

This was enacted to prevent the illegal excavation and possession of archeological resources located on federal, other public, and Indian lands. In passing this act the Congress recognized that the only comparable statutory law, the 1906 Antiquities Act, was inadequate in terms of defining archeological resources and establishing appropriate penalty provisions. The act called for regulations to be promulgated jointly by the Secretaries of Interior, Agriculture, Defense, and the Chairman of the Board of the Tennessee Valley Authority.

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Bald and Golden Eagles Protection Act

(PL Chapter 28, 54 Stat 250, 16 USC 668 et seq., as amended)

This statute prohibits taking, possession, and trade in bald and golden eagles. The act provides federal protection for bald and golden eagles; provides for civil or criminal penalties for violations and a reward for informers; authorizes cancellation of grazing, leases, licenses, permits, or other agreements for violations; and provides for the possession and transport of golden eagles for falconry, under certain conditions.

Clean Air Act

(PL Chapter 360, 69 Stat 322, 42 USC 7401 et seq.)

The main purpose of this act is to protect and enhance the nation's air quality to promote the public health and welfare. The act establishes specific programs that provide special protection for air resources and air quality related values (AQRVs) associated with NPS units. For example, sections 160-169 of the act establish a program to prevent significant deterioration (PSD) of air quality in clean air regions of the country. The purposes of the PSD program include the following: to protect resources that might be sensitive to pollutant concentrations lower than the established national standards and "to preserve, protect and enhance the air quality in national parks, national monuments, national seashores, and other areas of special national or regional natural, recreational, scenic or historic value." In section 169A of the act, Congress also established a national goal of remedying any existing and preventing any future human-made visibility impairment in mandatory class I areas.

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA or Superfund)

(PL 96-510, 94 Stat 2767, 42 USC 9601 et seq.)

This was enacted to regulate the cleanup of hazardous or toxic contaminants at closed or abandoned sites. A fund available to states was established for cleanup of these abandoned sites. Superfund monies come from taxes levied on designated chemical feedstocks. The government can recover cost of the cleanup and associated damages by suing the responsible parties. The act was reauthorized in 1986 under the Superfund Amendment Reauthorization Act (SARA). Section 120 of SARA specifies that CERCLA is applicable to federal facilities.

Controlled Substance Act

(PL 91-513, 84 Stat 1242, 21 USC 812)

This act establishes five schedules for controlled substances and places them into the appropriate schedule based on findings. The act defines controlled substances; establishes five "schedules," or list of controlled substances, based upon the potential for abuse and use for accepted medical treatments; and specific substances to specific schedules. Substances listed as controlled are subject to federal regulatory control of their legal use.

Emergency Planning and Community Right-to-Know Act

(PL 99-499 Title III of SARA Sec. 300-330, 100 Stat 1725, 42 USC 1101)

This act set up procedures for (1) emergency planning, (2) emergency notification, (3) community right-to-know reporting on chemicals, and (4) emissions inventory. All federal agencies, including the DOI/NPS, are exempt from EPCRA. Nonetheless, DOI strongly encourages voluntary compliance with all portions of the law. EPCRA is designed to protect communities from hazardous chemicals by making sure that advance planning occurs for potential emergencies.

Endangered Species Act of 1973

(PL 93-205, 87 Stat 884, 7 USC 136, as amended)

This act requires federal agencies to ensure that their activities (authorized, funded, or carried out) will not jeopardize the existence of any endangered or threatened species or result in the destruction or adverse modification of critical habitat of such species.

Farmland Protection Policy Act

(PL 97-98 Title XV, Sec. 1540, Stat 1341)

The purpose of the Act is to minimize the extent to which Federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses, and to assure that Federal programs are administered in a manner that will be compatible with state, local government and private programs and policies protecting farmland.

Federal Insecticide, Fungicide, and Rodenticide Act of 1976

(PL 92-516, 86 Stat 973, 7 USC 136 et seq.)

This act requires that all pesticides be registered, and that pesticides be used in accordance with the registration. The act restricts the use of certain pesticides. Some pesticides are regulated as toxic pollutants under the Clean Water Act and the Safe Drinking Water Act.

Federal Land Policy and Management Act

(PL 99-198, 99 Stat 1354, 43 USC 1732)

This act constitutes the organic legislation for the Bureau of Land Management (BLM). The act requires that BLM consider the resource management programs of other federal agencies on adjacent lands in conducting their resource planning. The act also contains a land exchange authority under which the Secretary may exchange federal lands or interests in lands outside NPS units for nonfederal lands or interest within NPS units. This method of exchange can be used to eliminate mineral interests in NPS units.

Federal Tort Claims Act

(PL chapter 753 Title IV, 60 Stat 842, 28 USC 1346b, 2671-80)

This act provides the basis for the NPS to be held liable for failure or negligence with respect to visitor protection. Most interpretations of tort law make the landowner responsible for taking reasonable care to avert harm to visitors.

Federal Water Pollution Control Act (Clean Water Act of 1972)

(PL 92-500, PL 100-433, 86 Stat 816, USC 9 sec. 1251 et seq., as amended, 33 USC sec. 1251-1356, and 1987 Federal Water Quality Act)

This act firmly establishes federal regulation of the nation's waters, and contains provisions designed to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." The act requires that the states set and enforce water quality standards to meet Environmental Protection Agency (EPA) minimum guidelines. It establishes effluent limitations for point sources of pollution, requires a permit for point source discharge of pollutants (through the National Pollution Discharge Elimination System), a permit for discharge of dredged or fill material, and authorizes a "National Wetlands Inventory." Recent changes brought about by the 1987 Federal Water Quality Act places greater emphasis on toxicological-based criteria and in-site biological monitoring.

Federal Water Power Act of 1920

(PL Chapter 285, 41 Stat 1063, 16 USC 823a, as amended, 16 USC 797, 41 Stat 1353)

The 1921 amendments to the Federal Water Power Act prescribed that what is now the Federal Energy Regulatory Commission (FERC) could not grant authorization, permit, lease, or license for any facilities (dams, reservoirs, power houses, etc.) for the development, storage, and transmission of water and/or power within a national park without specific authority from Congress. Exceptions are where a park's enabling legislation or other statute specifically provides for such activities, as in those parks established in conjunction with reclamation projects (Lake Mead, Glen Canyon, etc.)

Fish and Wildlife Coordination Act

(PL 85-624, 72 Stat 563, 16 USC 661 et seq.)

This act requires federal agencies to consult with the U.S. Fish and Wildlife Service, or National Marine Fisheries Service, and with parallel state agencies, whenever water resource development plans result in alteration of a body of water. The Secretary of the Interior is authorized to assist and cooperate with federal agencies to "provide that wildlife conservation shall receive equal consideration and be coordinated with other features of water-resource development programs."

Flood Disaster Protection Act of 1973

(PL 93-234, 87 Stat 975, 12 USC 24, 1709-1)

This act substantially increased the coverage limits of the national flood insurance program. It also required state and local communities, as a condition of future federal assistance, to participate in the program and to adopt adequate flood plain ordinances and enforcement mechanisms. Property owners acquiring or improving land or facilities in identified flood hazard areas, and who are being assisted by federal programs (including by federally regulated or insured institution) are required to purchase flood insurance.

Food Security Act of 1985

(PL 99-198, 99 Stat 1354, 7 USC 1281)

Commonly known as the "Swampbuster Act," this legislation restricts a number of federal benefits to farmers who, after December 23, 1985, produce agricultural commodities on certain "converted wetland." Knowledge of the provisions of this law is useful for management of agricultural special use permits and in protecting park resources from impacts associated with agriculture on inholdings and adjacent lands.

Forest and Rangeland Renewable Resources Planning Act

(PL 95-307, 92 Stat 353, 16 USC 1600 et seq.)

This act established the land and resource management planning system for the U.S. Forest Service and also expressed Congressional insistence on inventory and monitoring of natural resources on all public lands in the U.S.

General Authorities Act of 1970

(PL 91-383 sec 1, 84 Stat 825, 16 USC 1a et seq.)

This act affirmed that all national park areas, including historic sites, recreation areas, etc., while acknowledged to be "distinct in character," were "united through their inter-related purposes and resources into one national park system as cumulative expressions of a single national heritage." The purpose of this act was "to include all such areas in the system and to clarify the authorities applicable to the system." The act made it clear that the NPS Organic Act and other protective

mandates applied equally to all units of the system. Further amendments stated that NPS management of park units should not be conducted “in derogation of the purposes and values for which these various areas have been established.

General Authorities Act of 1976

(PL 94-458, 90 Stat 1939)

This act allowed the Secretary of the Interior “to withhold from disclosure to the public, information relating to the location of sites or objects listed on the National Register whenever he determines that the disclosure of specific information would create a risk of destruction or harm to such sites or objects.

Historic Sites, Buildings and Antiquities Act of 1935

(PL Chapter 593, 49 Stat 666, 16 USC 461 et seq.)

This act established a national policy to preserve for public use historic sites, buildings, and objects of significance for the inspiration and benefit of the people of the United States. The act also directed the Secretary of the Interior to carry out wide-ranging programs in the field of history and placed with the Secretary responsibility for national leadership in the field of historic preservation. Another provision established the Advisory Board on National Parks, Historic Sites, Buildings, and Monuments (since renamed the National Park System Advisory Board). The act was the basis for the National Historic and Natural Landmarks Programs and the Historic American Building Survey.

Lacey Act

(PL Chapter 553, 37 Stat 187, 18 USC 42,44, as amended)

This act was one of the first wildlife laws, passed in 1900 to outlaw interstate traffic in birds and other animals illegally killed in their state of origin. The Lacey Act was amended several times and its coverage expanded to include wildlife taken in violation of foreign law as well as state law. The Lacey Act Amendments of 1981 provide more effective enforcement of state, federal, Indian tribal, and foreign conservation laws protecting fish, wildlife, and rare plants. The act gives authority, in addition to CFR regulations, to park superintendents and the U.S. Attorney to prosecute criminal or civil violations involving the taking of wildlife, fish, and rare plants in park units.

Land and Water Conservation Fund Act of 1965

(PL 88-578, 78 Stat 897, 16 USC 460d et seq.)

This act established the Land and Water Conservation Fund for planning and purchase of outdoor recreation areas and facilities. Appropriations from the fund may be made by the Congress for allocation to (1) the states, on a matching basis, for planning, acquisition of land and water areas and for construction of outdoor recreation facilities; and (2) the federal agencies, including the National Park Service, for use in acquiring lands needed for outdoor recreation. Legislation in 1987 extended the Fund through 2015.

Migratory Bird Conservation Act

(PL Chapter 257, 45 Stat 1222, 16 USC 715 et seq.)

The purpose of this act is to aid in the restoration of scarce or near extinct species and to regulate the introduction of American or foreign birds or other animals.

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Migratory Bird Treaty Act of 1918

(PL 186, 40 Stat 755)

This act prohibits taking, possession, and trade of migratory birds, except as permitted by regulations released by the Secretary of Agriculture. The act provides search, arrest, and seizure authority to authorized USDA employees; provides for civil and criminal penalties for violation; allows states to impose more restrictive measures to protect migratory birds; and allows for taking for scientific and propagating purposes.

Mineral Leasing Act for Acquired Lands of 1947

(PL Chapter 681, 61 Stat 681, 30 USC 351 et seq.)

This act authorized the disposal of leasable minerals (including, among others, coal, oil, and gas) from federal lands that were acquired by the U.S., i.e., lands that were nonfederal prior to U.S. obtaining title.

Mineral Leasing Act of 1920

(30 USC 181 et seq., as amended)

These laws provide authority for disposal of leasable minerals on “public domain” federal lands. Both this act and the Mineral Leasing Act for Acquired Lands prohibit leasing of federally owned minerals in units of the National Park System except where specifically authorized by law.

Mineral Materials Disposal Act of 1947

(30 USC 601 et seq.)

This act prohibits the sale of “salable” or “common variety” minerals in units of the National Park System. Examples include petrified wood, sand, stone, gravel, pumice, pumicite, cinders, limestone, and clay.

Mining in the National Parks Act of 1976

(PL 94-429, 90 Stat 1342, 16 USC 1901 et seq.)

This act closed all units of the National Park System to the location of new mining claims. The act directs the Secretary to determine the validity of unpatented mining claims and to make recommendations regarding claim acquisition, and reinforces the Secretary’s authority to acquire and regulate patented and unpatented mining claims in park units.

Mining Law of 1872

(30 USC 21 et seq.)

This law allows citizens to enter open public lands and stake a claim to lands which contain a valuable mineral. Minerals subject to claim location are referred to as “locatable” or “hardrock” minerals and include gold, silver, copper, lead, zinc, cinnabar, tin, talc, salt, feldspar, antimony, bismuth, molybdenum, uranium, and various gemstones. Such minerals are made available to parties for development through the issuance of unpatented and patented mining claims.

Museum Properties Management Act of 1955

(PL Chapter 259, 69 Stat 242, 16 USC 18f)

This act authorizes the Secretary of the Interior through the National Park Service to preserve and maintain objects of national historical and archeological significance and to establish and maintain museums in connection with this activity.

National Environmental Policy Act of 1969 (NEPA)

(PL 91-190, 42 USC 4321 et seq., 83 Stat 852, 42 USC 4332, as amended)

NEPA is the basic national charter for environmental protection. It contains an “action-forcing” provision to ensure that federal agencies act according to the letter and spirit of the law. Among its provisions, this act declares that is the policy of the federal government to “preserve important historic, cultural, and natural aspects of our national heritage.” It directs that all practicable means should be used to improve federal functions so that the nation may “...attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences...” Title I of NEPA requires that federal agencies plan and carry out their activities...” so as to protect and enhance the quality of the environment. Such activities shall include those directed to controlling pollution and enhancing the environment.” To enact this policy, NEPA requires an interdisciplinary study of the impacts associated with federal programs.

National Flood Insurance Act of 1968

(PL 90-448 Title XIII, 82 Stat 572, 42 USC 4001 et seq., as amended)

This act established a national flood insurance program, encouraged state and local governments to institute planning and land use programs to help reduce damage in flood risk areas, and assured that federal actions, including licensing and permitting, would be coordinated with these efforts.

Native American Graves Protection and Repatriation Act of 1990

(PL 101-601, 104 Stat 3049)

This act assigns ownership or control of Native American human remains, funerary objects, sacred objects, and objects of cultural patrimony that are excavated or discovered on federal lands or tribal lands after passage of the act to lineal descendants or affiliated Indian tribes or Native Hawaiian organizations; establishes criminal penalties for trafficking in human remains or cultural objects; requires federal agencies and museums that receive federal funding to inventory Native American human remains and associated funerary objects in their possession or control and identify their cultural and geographical affiliations within five years, and prepare summaries of information about Native American unassociated funerary objects, sacred objects, or objects of cultural patrimony. This is to provide for repatriation of such items when lineal descendants, Indian tribes, or Native Hawaiian organizations request it.

National Historic Preservation Act of 1966

(PL 89-665, 80 Stat 915; as amended by PL 91-243, PL 93-54, PL 94-422, PL 94-458, PL 96-199, PL 96-244, PL 96-515, PL 98-483, PL 99-514, PL 100-127, and PL 102-575)

The law established a national policy of historic preservation, including the encouragement of preservation on the state and private levels; authorized the Secretary of the Interior to expand and maintain a National Register of Historic Places including properties of state and local as well as national significance; authorized matching federal grants to the states and the National Trust for Historic Preservation for surveys and planning and for acquiring and developing National Register properties; established the Advisory Council on Historic Preservation; required federal agencies to consider the effects of their undertakings on National Register properties and provide the Advisory Council opportunities to comment (Section 106). Amended in 1976 (PL 94-422) to expand Section 106 to properties eligible for as well as listed on the National Register. Amended in 1980 (PL 96-515) to incorporate E.O. 11593 requirements (see below), to give national historic landmarks extra protection in federal project planning, and to permit federal agencies to

APPENDICES

lease historic properties and apply the proceeds to any National Register properties under their administration. Amended in 1992 and in 1999 to, among other things, redefine federal undertakings, address “anticipatory demolition,” and emphasize the interests and involvement of Native Americans and Native Hawaiians.

National Park Service Organic Act of 1916

(PL Chapter 408, 39 Stat 535 et seq., 16 USC 1)

Through this act, Congress established the National Park Service and mandated that it “shall promote and regulate the use of the federal areas known as national parks, monuments, and reservations...by such means and measures as conform to the fundamental purpose of the said parks, monuments, and reservations, which purpose is to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.” The Organic Act authorizes the Secretary to promulgate rules and regulations necessary for management of the parks. This authority, among others, provides the basis for the regulations in 36 CFR 1.

Occupational Safety and Health Act of 1970

(PL 91-596, 84 Stat 1590, 5 USC 5108)

This act established national safety and health standards for worker environments, including standards for occupational exposure limits to toxic and/or hazardous agents. The act created the Occupational Safety and Health Administration (OSHA). OSHA is responsible for training requirements for employees working with hazardous material spills and for hazard communication rulings. Rulings set requirements for (1) the development of material safety data sheets (MSDS) by manufacturers and importers, (2) the acquisition of MSDS by product users, and (3) training of employees who work with hazardous materials.

Preservation of Historical and Archeological Data Act of 1974

(PL 93-291, 74 Stat 220, 16 USC 469)

This act amended the Reservoir Salvage Act of 1960, and provides for preservation of significant scientific, prehistoric, or archeological data (including relics and specimens) that might be lost or destroyed as a result of (1) the construction of dams, reservoirs, and attendant facilities, or (2) any alteration of the terrain caused as a result of any federal construction project or federally licensed project, activity, or program.

Public Buildings Cooperative Use Act of 1976

(PL 94-541, 90 Stat 2505)

This act required the General Services Administration to acquire space for federal agencies in buildings of architectural or cultural significance where feasible. It also amended the Architectural Barriers Act of August 12, 1968, relating to the accessibility of certain buildings to the physically handicapped.

Redwood National Park Act

(PL 95-250, 92 Stat 163, as amended, 1978)

This act amended NPS authorities legislation to direct that within the National Park System, “authorization of activities shall be construed and the protection, management, administration...shall be conducted in light of the high public value and integrity of the National Park System and shall not be exercised in derogation of the values and purposes for which these various areas have been established...” With this additional amendment to NPS law, the NPS is

mandated to afford the highest standard of protection and care to park resources; no decision can compromise these resource values, except where specifically authorized by law.

Resource Conservation and Recovery Act (RCRA)

(PL Chapter 425, 30 Stat 1148, 42 USC 6901)

This act governs the generation, transportation, treatment, storage, and disposal of current and future actively produced hazardous waste, solid waste, and underground storage tanks. Federal agencies are subject to federal, state, and local requirements. The act authorizes a comprehensive program that regulates hazardous waste from generation to ultimate disposal (cradle to grave). Subtitle D of RCRA (Solid Waste) is regulated through state programs. Regulations for hazardous waste management are in the Federal Register starting at 40 CFR 260. They are immediately preceded by certain solid waste regulations.

Safe Drinking Water Act

(PL 93-523, 88 Stat 1660, 42 USC 300f et seq.)

This act directs EPA to publish and enforce regulations on maximum allowable contaminant levels in drinking water. The act requires EPA to issue regulations establishing national primary drinking water standards; primary enforcement responsibilities lie with the states. The act also protects underground sources of drinking water; primary enforcement responsibilities again lie with the states. Federal agencies having jurisdiction over public water systems must comply with all requirements to the same extent as any nongovernmental entity.

Surface Resources Use Act of 1955

(30 USC 601 et seq.)

This act prohibits persons from using the surface of unpatented claims for anything but mining. This act provides that claimants of patented mining claims may use the surface of the claim only for purposes related to mineral activity. Claimants may occupy and use resources on the claim only for prospecting and mining. Claimants also may not sell the surface resources (timber, sand, gravel, etc.) from an unpatented claim.

Transportation Act of 1996

(PL 89-670, 80 Stat 931)

This act stated in Sec 4(f) that the secretary of transportation "shall not approve any program or project which requires the use of any land from a public park, recreation area, . . . or historic site unless (1) there is no feasible and prudent alternative to the use of such land, and (2) such program includes all possible planning to minimize harm to such park, recreational area, . . . or historic site resulting from such use."

Toxic Substances Control Act

(PL 94-469, 90 Stat 2003, 15 USC 2601 et seq.)

This act regulates existing and new chemical substances and primarily applies to manufactures, distributors, processors, and importers of chemicals. There are requirements for stock inventory, pre-manufacture notification, testing reporting, and record keeping. Polychlorinated biphenyls (PCBs) are regulated under this legislation. PCBs whose concentration is greater than 50ppm are regulated. Equipment containing regulated PCB must be properly labeled, inspected, and surveyed.

Water Resources Planning Act and Water Resource Council's Principles and Standards Act of 1965

(PL 89-80, 42 USC 1962 et seq., 44 FR 723977, Principles and Standards)

This act states a national policy "to encourage the conservation, development, and utilization of water and related land resources on a comprehensive and coordinated basis by the federal government, states, localities, and private enterprises..." Water Resources Council (WRC) principles and standards for planning water and related land resource uses are revised to achieve national economic development and environmental quality objectives.

Watershed Protection and Flood Prevention Act

(PL 92-419, 16 USC 1001, 68 Stat 666, as amended, 86 Stat 667)

This act authorizes the Secretary of the Interior to cooperate with state and local governments, including soil and water conservation districts and flood control districts, in planning and analyzing trends in flood protection and watershed conservation activities and facilities.

EXECUTIVE ORDERS

Federal Compliance with Pollution Control Standards

(E.O. 12088)

This order established procedures and responsibilities to ensure that all necessary actions are taken to prevent, control, and abate environmental pollution with respect to federal facilities and activities.

Floodplain Management of 1977

(E.O. 11988, 42 FR 26951, 3 CFR 121 (Supp 177))

The objective of this order is to avoid, to the extent possible, long- and short-term adverse impacts associated with the occupancy and modifications of floodplains, and to avoid direct and indirect support of floodplain development whenever there is a practicable alternative.

Indian Sacred Sites

(E.O. 13007, 61 FR 26771)

This order instructs all federal land management agencies, to the extent practicable, permitted by law, and not clearly inconsistent with essential agency functions, to accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners and to avoid adversely affecting the physical integrity of such sacred sites.

Invasive Species

(E.O. 13112)

The objective of this order is to prevent the introduction of invasive species, to provide for their control, and to minimize the economic, ecological, and human health impacts that invasive species cause. Invasive species is defined to mean a species not native to an ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health.

Protection and Enhancement of the Cultural Environment

(E.O. 11593, 36 FR 8921)

This order instructed all federal agencies to support the preservation of cultural properties; directed them to identify and nominate to the National Register cultural properties under their jurisdiction and to “exercise caution . . . to assure that any federally owned property that might qualify for nomination is not inadvertently transferred, sold, demolished, or substantially altered.”

Protection and Enhancement of Environmental Quality

(E.O. 11514, as amended, 1970, E.O. 11991, 35 FR 4247; 1977, 42 FR 26967)

This order declares that “the Federal Government shall provide leadership in protecting and enhancing the quality of the Nation’s environment to sustain and enrich human life. Federal agencies shall initiate measures needed to direct their policies, plans and programs so as to meet environmental goals.”

Protection of Wetlands

(E.O. 11990, 1977 42 FR 26961, 3 CFR 121 (Supp 177), 42 USC 4321)

This executive order furthers the purposes of the National Environmental Policy Act by directing federal agencies to “...avoid to the extent possible the long and short term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative....” The directive applies both to “major federal actions significantly affecting the quality of the human environment” and to all other actions.

APPENDIX 6 – U.S. FISH AND WILDLIFE SERVICE CORRESPONDENCE



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Kansas Field Office
315 Houston Street, Suite E
Manhattan, Kansas 66502-6172

April 5, 2000

MEMORANDUM

TO: Regional Director, Midwest Region, NPS, Omaha, NE

FROM: Field Supervisor, Kansas Field Office, FWS, Manhattan, KS

SUBJECT: Draft Biological Assessment for Implementation of the Preferred Alternative, Tallgrass Prairie National Preserve General Management Plan and Environmental Impact Statement, Kansas

This is in response to your memorandum of March 28, 2000, and your biological assessment for implementation of the preferred alternative as described in the draft general management plan (GMP) and environmental impact statement (EIS) for the Tallgrass Prairie National Preserve, located in Chase County, Kansas. The assessment provided your determination of effect for the bald eagle and Topeka shiner which could result from implementation of the preferred alternative.

I concur with your determination that the implementation of the various activities being considered for the Preserve should have no adverse effect on the threatened bald eagle. This species will require no further consideration in project planning.

The conclusions are not as readily apparent regarding the endangered Topeka shiner. As you indicated, the GMP/EIS is at this time a conceptual planning document which does not provide sufficient site-specific or project-specific details to be able to determine with certainty what impacts may occur. I do concur with your determination that the activities being proposed for implementation should result in long-term benefits to the Topeka shiner. Regarding the potential for short-term adverse effects, we have noted your intent to initiate section 7 consultation for any activities which are identified as potentially affecting this species. These may include range management practices in the Fox Creek watershed, where the shiner is known to occur.

Based on this guarantee of future consultation for those actions for which it may be warranted, I concur with your determination that the preferred alternative of the GMP at this time does not adversely affect the Topeka shiner. If you have additional questions, please feel free to contact me or Dan Mulhern of this office again.

cc: KDWP, Pratt, KS (Environmental Services)

WHG/dwm

William H. Gill

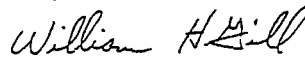
This is your future. Don't leave it blank. -- Support the 2000 Census.

Regional Director, NPS

2

In addition to these species of concern, I urge the Park Service to consider the needs of neotropical migratory birds in general. Significant declines have been documented in recent decades in populations of migratory birds breeding in both shortgrass and tallgrass prairie. Continued losses of the prairie habitat type only serve to exacerbate this trend. Preservation and management of this prairie preserve should have as one of its goals the optimization of as much habitat for these species as possible. In the very near future, this may require consideration of significant changes in the grazing patterns currently established on the Preserve. Grazing and other management which optimizes breeding and foraging habitat for the widest diversity of migratory birds could also serve the dual role of providing quality watershed habitat for the Topeka shiner.

If you have any questions or comments regarding any of this information, please feel free to contact me or Dan Mulhern of this office at any time. Thank you for this opportunity to provide input in the preliminary stages of planning for management of the Tallgrass Prairie National Preserve.



cc: FWS, Denver, CO (GARD, COKANUT)
KDWP, Pratt, KS (Environmental Services)

WHG/dwm



United States Department of the Interior

FISH AND WILDLIFE SERVICE
 Kansas Field Office
 315 Houston Street, Suite E
 Manhattan, Kansas 66502-6172

July 11, 1997

MEMORANDUM

TO: Regional Director, Midwest Field Area, NPS, Omaha, NE

FROM: Field Supervisor, Ecological Services, FWS, Manhattan, KS.

SUBJECT: Tallgrass Prairie National Preserve GMP/EIS

This is in response to your June 27, 1997 letter requesting threatened and endangered and sensitive species information pursuant to the development of a general management plan/environmental impact statement (GMP/EIS) for the Tallgrass Prairie National Preserve in Chase County, Kansas. The following comments and information are provided for your consideration.

Based on our review, the Fish and Wildlife Service was unable to determine the regular occurrence of any federally-listed threatened or endangered species on the Preserve. As you indicated in your letter, the Topeka shiner (*Notropis topeka*), a candidate for federal listing under the Endangered Species Act, does occur on the Preserve. A specific time frame for listing this species has not been developed, but a proposal could be published in the Federal Register in the near future. A key to providing protection for this species is protecting the quality and quantity of stream water. Maintenance of filtering vegetation along stream banks is critical to maintaining the quality of habitat required by this declining fish species.

In response to your request, I am also providing you with the following list of species which were formerly classified as category 2 candidate species, now considered "species of concern" by the Fish and Wildlife Service. All these species are in some way or another associated with the uplands and wetland habitats of tallgrass prairie.

| | |
|---|-------------------------------------|
| Plains spotted skunk (<i>Spilogale putorius interrupta</i>) | Woodlands, rocky grassland |
| Black tern (<i>Chlidonias niger</i>) | Emergent vegetated wetlands |
| Loggerhead shrike (<i>Lanius ludovicianus</i>) | Grassland with shrubby areas |
| Henslow's sparrow (<i>Ammodramus henslowii</i>) | Tallgrass prairie with thick thatch |
| Texas horned lizard (<i>Phrynosoma cornutum</i>) | Sandy or rocky open grassland |
| Prairie mole cricket (<i>Gryllotalpa major</i>) | Tallgrass prairie |
| Regal fritillary butterfly (<i>Speyeria idalia</i>) | Tallgrass prairie with many forbs |

APPENDIX 7 – DEFINITIONS

Adaptive use - A use for a structure or landscape other than its historic use, normally entailing some modification of the structure or landscape.

Agricultural landscape - Land used for both farming and ranching, and the associated buildings, structures, landscape elements, and vegetation and livestock that comprise the scene.

Aquatic areas - Areas associated with water.

Aquatic ecosystems - Stream channels, lakes, springs, or wetlands; and the water resources, biotic communities, and habitat features that occur there.

Archeological resource - Any material remains or physical evidence of past human life or activities which are of archeological interest, including the record of the effects of human activities on the environment. They are capable of revealing scientific or humanistic information through archeological research.

Biological diversity - The variety of life and the processes that govern life. There are four types of biological diversity: genetic, species, community/ecosystem, and process.

Bottomlands - Those areas bordering natural waterways.

Ecosystem - A system of living organisms that interact with the environment and each other.

Carrying capacity - The type and level of visitor use that can be accommodated while sustaining the desired resource and social conditions that complement the purposes of the park units and their management objectives.

Character-defining feature - A prominent or distinctive aspect, quality, or characteristic of a historic property that contributes significantly to its physical character. Structures, objects, vegetation, spatial relationships, views, furnishings, decorative details, and materials may be such features.

Community Outreach Programs - All staffed interpretation programs other than curriculum-based education programs that are offered outside the park. Examples include interpretive talks, historical demonstrations, staffing an exhibit at a local festival, etc. Audiences can be groups or informal gatherings. Examples of audiences might include community clubs, church groups, elder hostel, scouts, or children camps.

Cool season grasses – Grass species that grow in the spring and fall and tend to become dormant when the native tallgrass prairie grasses flourish. Brome grass and fescue are non-native cool season grasses most often found in the Flint Hills region and planted to complement native warm season pastures. (Definition courtesy of Kansas Livestock Association.)

APPENDICES

Cultural landscape - A geographic area, including both cultural and natural resources, and the wildlife or domestic animals therein, associated with a historic event, activity, or person.

Cultural landscape resources - The components of a landscape that, taken together, provide a scene evocative of a specific culture.

Cultural practice - A pattern of behavior associated with a particular way of life.

Cultural resource - An aspect of a cultural system that is valued by or significantly representative of a culture, or that contains significant information about a culture. A cultural resource may be a tangible thing, or a cultural practice. This includes archeological resources, cultural landscapes, historic buildings and structures, museum objects and archival materials, and ethnographic resources.

Early intensive grazing – A grazing scheme that increases the stocking rate of the season-long grazing system while decreasing the length of the grazing season. Typically, this grazing system will double the number of yearling cattle per acre and reduce the grazing season by one half the number of days. “Contemporary grazing regimes” and “intensive early stocking” are terms also used to describe such a grazing option. (Definition courtesy of Kansas Livestock Association.)

Education Programs - Comprehensive curriculum-based programs conducted on or off-site, for all ages, which are created cooperatively with educators. This includes all curriculum-based programs that usually include pre-visit, on-site visit and post-visit activities.

Ethnographic resource - A site, structure, object, landscape, or natural resource feature assigned traditional legendary, religious, subsistence, or other significance in the cultural system of a group traditionally associated with it.

Ethnography - Within the National Park Service, a field of study concerned with the peoples associated with parks, including their cultural systems or ways of life, related technology, structures and other material features, and natural resources.

Ethnohistory - Part of the discipline of anthropology concerned with the systematic and comparative analysis of cultures.

Eutrophication – A term to describe the situation where a body of water experiences such an increase in minerals and organic nutrients that the dissolved oxygen in the water is reduced, producing an environment that favors plant life rather than animal life.

Exotic species - A species occurring in a given place as a result of direct, indirect, deliberate, or accidental actions by humans.

Extirpated - The complete removal of a species from all or part of its natural range.

Feature (historic) - A prominent or distinctive aspect, quality, or characteristic of a historic property or landscape; a historic property.

Feedlots - Permanent places where animals are confined and fed prior to transportation to slaughterhouses.

Floodplain - Lowland and relatively flat areas adjoining inland and coastal waters including flood prone areas of offshore islands, and, at a minimum, areas subject to a one percent or greater chance of flooding in any given year.

Genetically Pure - Animal species that have no genetic material from other species. In the case of this general management plan, genetically pure bison refers to bison that would not contain cattle genes.

Groundwater - Water in the part of the ground that is wholly saturated

Heterogeneous disturbance regimes - Activities such as fire and grazing applied in different arrangements that vary over time.

Historic fabric - The physical elements that were combined or deposited to form a property. Historic material or historic fabric is that from a historically significant period, as opposed to material used to maintain or restore a property following its historic period(s).

Historic vernacular landscape - A landscape whose use, construction, or physical layout reflects local traditions, customs, beliefs, or values. The physical features and materials--including the interrelationships and patterns of spatial organization; land use, circulation patterns, vegetation, structures and objects--reflect the customs and everyday lives of people.

Integrity - The authenticity of a property's historic identity, evidenced by the survival of physical characteristics that existed during its historic period.

Interpretation - An educational activity which aims to reveal meanings and relationships through the use of original objects, by firsthand experience, and by illustrative media, rather than simply to communicate factual information.

Invasive - Aggressive, rapidly spreading species that causes impacts to healthy systems. Often, though not always, these are exotics/aliens/non-native/non-indigenous species.

Junior Ranger Program - Junior Ranger activities include those where interpretation staff have some visitor contact or interaction with visitors; involve the use of materials such as questionnaires or activity booklets; and offer rewards upon completion.

Landscape - A group of ecosystems and the interrelationships that connect them in a fairly large geographical area.

Loan Materials - Unaccompanied interpretive materials sent out of the park on loan. Loan materials encompass such things as films, videos, skins, skulls, replicas, and traveling trunks.

Native species - A species that occurs and evolves naturally at a given location without human intervention or manipulation.

Park Web Site - The web site located on the National Park Service's Park Net site on the World Wide Web or Internet that contains information about the park.

APPENDICES

Period of Significance - For National Register of Historic Places or National Historic Landmark designations, the length of time for which a property was associated with important events, activities, persons, or attained the characteristics which qualify it for listing.

Plant community - A group of plants growing in an interrelated manner on a particular site.

Preservation - The act or process of applying measures to maintain the existing form, integrity, and material of a historic structure, landscape, or object.

Reconstruction - The process of depicting, by new construction, the form, features, and detailing of non-surviving historic structures. This would be for the purpose of replicating its appearance at a specific time and in its historic location.

Rehabilitation - The process of making possible a compatible use for a historic structure or landscape through repair, alterations, and additions, while preserving the features which convey its historical, cultural, or architectural values.

Restoration (of natural resources) - A process that replaces existing vegetation on a site with desired vegetation that existed there before.

Restoration (of cultural resources) - The process or act of accurately depicting the form, features, and character of a historic structure, landscape, or object as it appeared at a particular period of time. This process might include removal of features from other periods of history and reconstruction of features of the restoration period that are missing.

Resource - Something of value to be preserved, protected, and enhanced, such as significant historical, recreational, scenic, cultural, natural, economic, and scientific resources

Resource management - The art or manner of treating, directing, or handling resources

Riparian - Pertaining to or on the banks of rivers and streams

Significant resources (historic) - The area's important resources as evaluated according to specific criteria as provided in National Register of Historic Places guidelines. These include scenic vistas; habitat for endangered, threatened, and rare species; exceptional biological diversity; scientifically important fossil deposits; historic and prehistoric cultural resources; and visitor use and access areas.

Season-long grazing - This term usually refers to the grazing of yearling beef cattle during the principal growing months of native tallgrass pastures. A full grazing season typically includes a five- to six-month period from April 15 to November 1. The terms "historic grazing regime" and "May-to-October steer grazing operation" are synonymous. (Definition courtesy of Kansas Livestock Association.)

Stabilization - An action to mitigate wear and deterioration of a historic property without altering its historic character. This could include protection of its current condition, repair with the least degree of intervention when its condition warrants it, or limited in-kind replacement

when deterioration of materials makes repair impossible. For archeological sites it includes work to moderate, prevent, or arrest erosion.

Sustainability - The concept that recognizes long-term conservation of natural resources and the roles the Tallgrass Prairie National Preserve plays in portraying a ranching story and addressing visitor experiences. The Tallgrass Prairie National Preserve plays a role in representing the nation's most threatened resources. Sustainability relates to the ability of the prairie ecosystem components to maintain and express themselves with management schemes in place. This term also refers to the economic feasibility of the management alternatives to cover or defray a portion of the operating expenses of the preserve.

Tame grass - The term is usually applied to grasses that have been cultivated, often for hay. Examples are fescue, timothy grass, and orchard grass.

Traditional Cultural Property - A property associated with cultural practices or beliefs of a living community that are rooted in that community's history, or are important in maintaining its cultural identity.

Undertaking - As referred to in Section 106 of the National Historic Preservation Act, any federal, federally assisted, federally licensed, or federally sanctioned project, activity or program that can result in changes in the character or use of historic properties.

Ungulates - Hoofed mammals.

Year-long cow-calf grazing operations – A ranching activity that raises breeding beef cows and weans offspring (calves) from the cowherd as a source of revenue. Such operations may graze cows and calves on native pastures on a continual basis or maintain cows and their offspring on cool season pastures, fields or dry lots when native grasses are dormant. (Definition courtesy of Kansas Livestock Association.)

APPENDIX 8 – LEGISLATION

110 STAT. 4204

PUBLIC LAW 104-333—NOV. 12, 1996

TITLE X—MISCELLANEOUS

Subtitle A--Tallgrass Prairie National Preserve 16 USC 698u.

SEC.1001. SHORT TITLE. This subtitle may be cited as the “Tallgrass Prairie National Preserve Act of 1996”

16 USC 698u. SEC. 1002. FINDINGS AND PURPOSES.

(a) Findings.--Congress finds that—

- (1) of the 400,000 square miles of tallgrass prairie that once covered the North American Continent, less than 1 percent remains, primarily in the Flint Hills of Kansas;
- (2) in 1991, the National Park Service conducted a special resource study of the Spring Hill Ranch, located in the Flint Hills of Kansas;
- (3) the study concludes that the Spring Hill Ranch—
 - (A) is a nationally significant example of the once vast tallgrass ecosystem, and includes buildings listed on the National Register of Historic Places pursuant to section 101 of the National Historic Preservation Act (16 U.S.C. 470a) that represent outstanding examples of Second Empire and other 19th Century architectural styles; and
 - (B) is suitable and feasible as a potential addition to the National Park System; and
- (4) the National Park Trust, which owns the Spring Hill Ranch, has agreed to permit the National Park Service—
 - (A) to purchase a portion of the ranch, as specified in the subtitle; and
 - (B) to manage the ranch in order to—
 - (i) conserve the scenery, natural and historic objects, and wildlife of the ranch; and
 - (ii) provide for the enjoyment of the ranch in such a manner and by such means as will leave the scenery,[[Page 110 STAT. 4205]] natural and historic objects, and wildlife unimpaired for the enjoyment of future generations.

(b) PURPOSES.--The purposes of this subtitle are—

- (1) to preserve, protect, and interpret for the public an example of a tallgrass prairie ecosystem on the Spring Hill Ranch, located in the Flint Hills of Kansas; and
- (2) to preserve and interpret for the public the historic and cultural values represented on the Spring Hill Ranch.

16 USC 698u-1. SEC. 1003. DEFINITIONS.

In this subtitle:

- (1) ADVISORY COMMITTEE.--The term "Advisory Committee" means the Advisory Committee established under section 1007.
- (2) PRESERVE.--The term "Preserve" means the Tallgrass Prairie National Preserve established by section 1004.
- (3) SECRETARY.--The term "Secretary" means the Secretary of the Interior.
- (4) TRUST.--The term "Trust" means the National Park Trust, Inc., a District of Columbia nonprofit corporation, or any successor-in-interest.

16 USC 698u-2. SEC. 1004. ESTABLISHMENT OF TALLGRASS PRAIRIE NATIONAL PRESERVE.

- (a) IN GENERAL.--In order to provide for the preservation, restoration, and interpretation of the Spring Hill Ranch area of the Flint Hills of Kansas, for the benefit and enjoyment of present and future generations, there is established the Tallgrass Prairie National Preserve.
- (b) DESCRIPTION.--The Preserve shall consist of the lands and interests in land, including approximately 10,894 acres, generally depicted on the map entitled "Boundary Map, Flint Hills Prairie National Monument" numbered NM-TGP 80,000 and dated June 1994, more particularly described in the deed filed at 8:22 a.m. of June 3, 1994, with the Office of the Register of Deeds in Chase County, Kansas, and recorded in Book L-106 at pages 328 through 339, inclusive. In the case of any difference between the map and the legal description, the legal description shall govern, except that if, as a result of a survey, the Secretary determines that there is a discrepancy with respect to the boundary of the Preserve that may be corrected by making minor changes to the map, the Secretary shall make changes to the map as appropriate, and the boundaries of the Preserve shall be adjusted accordingly. The map shall be on file and available for public inspection in the appropriate offices of the National Park Service of the Department of the Interior.

16 USC 698u-3. SEC. 1005. ADMINISTRATION OF NATIONAL PRESERVE.

- (a) IN GENERAL.--The Secretary shall administer the Preserve in accordance with this subtitle, the cooperative agreements described in subsection (f)(1), and the provisions of law generally applicable to units of the National Park System, including the Act entitled "An Act to establish a National Park Service, and for other purposes", approved August 25, 1916 (16 U.S.C. 1, 2 through 4) and the Act of August 21, 1935 (49 Stat. 666; 16 U.S.C. 461 et seq.).
- (b) APPLICATION OF REGULATIONS.--With the consent of a private owner of land within the boundaries of the Preserve, the regulations issued by the Secretary concerning the National Park Service that provide for the proper use, management, and protection of persons, property, and natural and cultural resources shall apply to the private land.
- (c) FACILITIES.--For purposes of carrying out the duties of the Secretary under this subtitle relating to the Preserve, the Secretary may, with the consent of a landowner, directly or by contract, construct, reconstruct, rehabilitate, or develop essential buildings, structures, and related facilities including roads, trails, and other

- interpretive facilities on real property that is not owned by the Federal Government and is located within the Preserve.
- (d) **LIABILITY.—**
- (1) **LIABILITY OF THE UNITED STATES AND ITS OFFICERS AND EMPLOYEES.**--Except as otherwise provided in this subsection, the liability of the United States is subject to the terms and conditions of the Federal Tort Claims Act, as amended, 28 U.S.C. 2671 et seq., with respect to the claims arising by virtue of the Secretary's administration of the Preserve pursuant to this Act.
 - (2) **LIABILITY OF LANDOWNERS.—**
 - (A) The Secretary of the Interior is authorized, under such terms and conditions as he deems appropriate, to include in any cooperative agreement entered into in accordance with subsection (f)(1) an indemnification provision by which the United States agrees to hold harmless, defend and indemnify the landowner in full from and against any suit, claim, demand or action, liability, judgment, cost or other fee arising out of any claim of personal injury or property damage that occurs in connection with the operation of the Preserve under the agreement: Provided however, That indemnification shall not exceed \$3 million per claimant per occurrence.
 - (B) The indemnification provision authorized by subparagraph (A) shall not include claims for personal injury or property damage proximately caused by the wanton or willful misconduct of the landowner.
- (e) **UNIT OF THE NATIONAL PARK SYSTEM.**--The Preserve shall be a unit of the National Park System for all purposes, including the purpose of exercising authority to charge entrance and admission fees under section 4 of the Land and Water Conservation Fund Act of 1965 (16 U.S.C. 4601-6a).
- (f) **AGREEMENT AND DONATIONS.—**
- (1) **AGREEMENTS.**--The Secretary may expend Federal funds for the cooperative management of private property within the Preserve for research, resource management (including pest control and noxious weed control, fire protection, and the restoration of buildings), and visitor protection and use.
 - (2) **DONATIONS.**--The Secretary may accept, retain, and expend donations of funds, property (other than real property), or services from individuals, foundations, corporations, or public entities for the purposes of providing programs, services, facilities, or technical assistance that further the purposes of this subtitle.
- (g) **GENERAL MANAGEMENT PLAN.—**
- (1) **IN GENERAL.**--Not later than the end of the third full fiscal year beginning after the date of enactment of this Act, the Secretary shall prepare and submit to the Committee on Energy and Natural Resources of the Senate and the Committee[[Page 110 STAT. 4207]] on Resources of the House of Representatives a general management plan for the Preserve.
 - (2) **CONSULTATION.**--In preparing the general management plan, the Secretary, acting through the Director of the National Park Service, shall consult with—
 - (A) (i) appropriate officials of the Trust; and
 - (ii) the Advisory Committee; and
 - (C) adjacent landowners, appropriate officials of nearby communities, the Kansas Department of Wildlife and Parks, the Kansas Historical Society, and other interested parties.

- (3) CONTENT OF PLAN.--The general management plan shall provide for the following:
 - (A) Maintaining and enhancing the tall grass prairie within the boundaries of the Preserve.
 - (B) Public access and enjoyment of the property that is consistent with the conservation and proper management of the historical, cultural, and natural resources of the ranch.
 - (C) Interpretive and educational programs covering the natural history of the prairie, the cultural history of Native Americans, and the legacy of ranching in the Flint Hills region.
 - (D) Provisions requiring the application of applicable State law concerning the maintenance of adequate fences within the boundaries of the Preserve. In any case in which an activity of the National Park Service requires fences that exceed the legal fence standard otherwise applicable to the Preserve, the National Park Service shall pay the additional cost of constructing and maintaining the fences to meet the applicable requirements for that activity.
 - (E) Provisions requiring the Secretary to comply with applicable State noxious weed, pesticide, and animal health laws.
 - (F) Provisions requiring compliance with applicable State water laws and Federal and State waste disposal laws (including regulations) and any other applicable law.
 - (G) Provisions requiring the Secretary to honor each valid existing oil and gas lease for lands within the boundaries of the Preserve (as described in section 1004(b)) that is in effect on the date of enactment of this Act.
 - (H) Provisions requiring the Secretary to offer to enter into an agreement with each individual who, as of the date of enactment of this Act, holds rights for cattle grazing within the boundaries of the Preserve (as described in section 1004(b)).
- (4) HUNTING AND FISHING.--The Secretary may allow hunting and fishing on Federal lands within the Preserve.
- (5) FINANCIAL ANALYSIS.--As part of the development of the general management plan, the Secretary shall prepare a financial analysis indicating how the management of the Preserve may be fully supported through fees, private donations, and other forms of non-Federal funding.

16 USC 698u-4. SEC. 1006. LIMITED AUTHORITY TO ACQUIRE.

- (a) IN GENERAL.--The Secretary shall acquire, by donation, not more than 180 acres of real property within the boundaries of the Preserve (as described in section 1004(b)) and the improvements on the real property.
- (b) PAYMENTS IN LIEU OF TAXES.--For the purposes of payments made under chapter 69 of title 31, United States Code, the real property described in subsection (a)(1) shall be deemed to have been acquired for the purposes specified in section 6904(a) of that title.
- (c) PROHIBITIONS.--No property may be acquired under this section without the consent of the owner of the property. The United States may not acquire fee ownership of any lands within the Preserve other than lands described in this section.

16 USC 698u-5 SEC. 1007. ADVISORY COMMITTEE.

- (a) ESTABLISHMENT.--There is established an advisory committee to be known as the "Tallgrass Prairie National Preserve Advisory Committee".
- (b) DUTIES.--The Advisory Committee shall advise the Secretary and the Director of the National Park Service concerning the development, management, and interpretation of the Preserve. In carrying out those duties, the Advisory Committee shall provide timely advice to the Secretary and the Director during the preparation of the general management plan under section 1005(g).
- (c) MEMBERSHIP.--The Advisory Committee shall consist of 13 members, who shall be appointed by the Secretary as follows:
 - (1) Three members shall be representatives of the Trust.
 - (2) Three members shall be representatives of local landowners, cattle ranchers, or other agricultural interests.
 - (3) Three members shall be representatives of conservation or historic preservation interests.
 - (4) (A) One member shall be selected from a list of persons recommended by the Chase County Commission in the State of Kansas.
(B) One member shall be selected from a list of persons recommended by appropriate officials of Strong City, Kansas, and Cottonwood Falls, Kansas.
(D) One member shall be selected from a list of persons recommended by the Governor of the State of Kansas.
 - (5) One member shall be a range management specialist representing institutions of higher education (as defined in section 1201(a) of the Higher Education Act of 1965 (20 U.S.C. 1141(a))) in the State of Kansas.
- (d) TERMS.—
 - (1) IN GENERAL.--Each member of the Advisory Committee shall be appointed to serve for a term of 3 years, except that the initial members shall be appointed as follows:
 - (A) Four members shall be appointed, one each from paragraphs (1), (2), (3), and (4) of subsection (c), to serve for a term of 3 years.
 - (B) Four members shall be appointed, one each from paragraphs (1), (2), (3), and (4) of subsection (c), to serve for a term of 4 years.
 - (C) Five members shall be appointed, one each from paragraphs (1) through (5) of subsection (c), to serve for a term of 5 years. [[Page 110 STAT. 4209]]
 - (2) REAPPOINTMENT.--Each member may be reappointed to serve a subsequent term.
 - (3) EXPIRATION.--Each member shall continue to serve after the expiration of the term of the member until a successor is appointed.
 - (4) VACANCIES.--A vacancy on the Advisory Committee shall be filled in the same manner as an original appointment is made. The member appointed to fill the vacancy shall serve until the expiration of the term in which the vacancy occurred.
- (e) CHAIRPERSON.--The members of the Advisory Committee shall select 1 of the members to serve as Chairperson.
- (f) MEETINGS.--Meetings of the Advisory Committee shall be held at the call of the Chairperson or the majority of the Advisory Committee. Meetings shall be held at such locations and in such a manner as to ensure adequate opportunity for public involvement. In compliance with the requirements of the Federal Advisory Committee Act (5 U.S.C. App.), the Advisory Committee shall choose an appropriate

means of providing interested members of the public advance notice of scheduled meetings.

- (g) QUORUM.--A majority of the members of the Advisory Committee shall constitute a quorum.
- (h) COMPENSATION.--Each member of the Advisory Committee shall serve without compensation, except that while engaged in official business of the Advisory Committee, the member shall be entitled to travel expenses, including per diem in lieu of subsistence in the same manner as persons employed intermittently in Government service under section 5703 of title 5, United States Code. (i) Charter.--The rechartering provisions of section 14(b) of the Federal Advisory Committee Act (15 U.S.C. App.) shall not apply to the Advisory Committee.

16 USC 698u-6. SEC. 1008. RESTRICTION ON AUTHORITY.

Nothing in this subtitle shall give the Secretary authority to regulate lands outside the land area acquired by the Secretary under section 1006(a).

16 USC 698u-7. SEC. 1009. AUTHORIZATION OF APPROPRIATIONS.

There are authorized to be appropriated to the Department of the Interior such sums as are necessary to carry out this subtitle.

APPENDIX 9 – ENHANCEMENT AND SUSTAINABILITY PANELS

Enhancement Panel and Support

Dr. Walter K. Dodds

Associate Professor, Division of Biology, Kansas State University., Prairie aquatic habitats.

Dr. David C. Hartnett

Professor of Biology, Kansas State University and Director, Konza Prairie Research Natural Area Ecology of Tallgrass Prairie.

Dr. Ron Hiebert

Associate Regional Director, Natural Resource Stewardship and Science, Midwest Region, National Park Service. Workshop facilitator and technical editor.

Dr. Anthony Joern

Professor, School of Biological Sciences, University of Nebraska, Lincoln. Insect populations and community ecology, insect/plan interactions and grassland ecology.

Dr. Kelly Kindscher

Assistant Scientist, Kansas Biological Survey, University of Kansas and Courtesy Assistant Professor, Environmental Studies Program, University of Kansas.

Dr. James Stubbendieck

Professor of Agronomy (Rangeland Ecology), University of Nebraska and Director, Center for Great Plains Studies. Ecology of rangeland plant communities.

Dr. John S. Zimmerman

Professor, Kansas State University (Retired). Avian population and community ecology.

Sustainable Management Panel and Support

Dr. Tom Bragg
Professor, Department of Biology, University of Nebraska-Omaha.

Dr. Steve Hamilton
Assistant Professor, Department of Agriculture Economics, Kansas State University.

Mike Holder
Chase County Extension Agent - Facilitator.

Dr. Jim Hoy
Emporia State University - Rapporteur.

Paul Labovitz
Rivers, Trails and Conservation Assistance, Midwest Region, National Park Service - Recorder.

Dr. David Lime
Senior Research Associate, Department of Forest Resources, University of Minnesota-St. Paul.

Jill Medland
Natural Resources, Midwest Support Office, National Park Service - Transcriber.

Tom Moxley
Owner/Manager, Moxley Ranch.

Dr. James Shortridge
Professor, Cultural Geography, University of Kansas.

Dr. Jim Stubbendieck
Director, Center for Great Plains Studies; Professor, University of Nebraska at Lincoln;
Continuity with Enhancement Panel

Keith Yearout
Owner/Manager, Rock Hill Ranch, farming and bison operation; President, Kansas Bison
Association.

APPENDIX 10 - ADVISORY COMMITTEE

(Current advisory committee appointed in 1997 by Secretary of the Interior Bruce Babbitt)

John Bock, Elmdale, Kansas (3-year term), the Chase County Commission

William Browning, Madison, Kansas (5-year term), local landowners, cattle ranchers, or other agricultural interests

Don Castleberry, Little Rock, Arkansas (5-year term), National Park Trust

Paul Duffendack, Leawood, Kansas (4-year term), National Park Trust

Lee Fowler, Cottonwood Falls, Kansas (3-year term), Governor's representative (Chair)

David Glenn-Lewin, Wichita, Kansas (5-year term), range management specialist representing higher education institutions

Sharon Hahn, Council Grove, Kansas (4-year term), conservation or historic preservation interests

Jeanne Hatcher, Strong City, Kansas (3-year term), local landowners, cattle ranchers, or other agricultural interests

Bill Haw, Kansas City, Missouri (4-year term), local landowners, cattle ranchers or other agricultural interests

Ron Klataske, Manhattan, Kansas (5-year term), conservation or historic preservation interests

Barry Linnens, Cedar Point, Kansas (4-year term), Strong City and Cottonwood Falls (Vice-Chair)

Ron Parks, Council Grove, Kansas (3-year term), conservation or historic preservation interests

Paul Pritchard, Washington, D.C. (3-year term), National Park Trust

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